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THE ILLINOIS MEDICAL JOURNAL

CONTAINING

The Official Record of the Proceedings of the Illinois
State Medical Society and the
Papers Read

AT THE

MEETING AT ROCK ISLAND, MAY 16, 17 AND 18, 1905,

AND THE

PROCEEDINGS OF THE AFFILIATED SOCIETIES, TOGETHER WITH EDITORIAL
DISCUSSIONS AND ITEMS OF INTEREST TO THE
PRACTITIONERS OF ILLINOIS.

EDITED FOR THE SOCIETY UNDER THE DIREC-
TION OF THE JUDICIAL COUNCIL

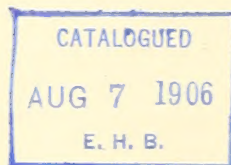
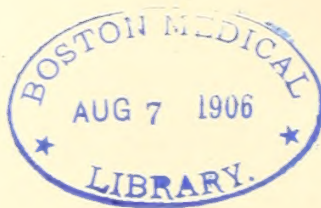
BY

GEORGE N. KREIDER, A. M., M. D.

VOLUME VIII.

JULY, 1905, TO JANUARY, 1906

SPRINGFIELD,
ILLINOIS STATE JOURNAL COMPANY,
PRINTERS AND BINDERS.



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The Illinois Medical Journal.

The Official Organ of The Illinois State Medical Society.

Vol. VIII, No. 1. }
25c per copy

Springfield, Ill., July, 1905.

} SUBSCRIPTION
\$2.00 A YEAR.

REPORT OF CASES.*

BY S. C. PLUMMER, M. D., CHICAGO.

A Case of Gastro-Enteroptosis.

A. R. L., aged 24, female, married. Family history negative.

During the last year she suffered from several attacks of abdominal disturbance. In one of these attacks she was seen by Dr. Wm. H. German. The symptoms consisted of nausea, general abdominal pain, which later became localized on the right side in the region of the appendix, tenderness in right iliac fossa, no rise of temperature. The patient described her other attacks as being of a similar nature. When referred to me by Dr. German three weeks after the last attack, she reported that she still suffered pain whenever she stood up; otherwise she presented no symptoms except tenderness in the right iliac fossa.

I concurred in Dr. German's diagnosis of appendicitis.

Operation September 13th, 1904. Incision to expose appendix. Large intestine identified and drawn up. Evidently the large bowel which I was drawing up into the wound was located in the pelvis, and after withdrawing several inches, I realized that I had hold of the transverse colon, which I now traced over to the splenic flexure. I now found the ascending colon, and it was evident that the cecum was also in the pelvis. This being drawn into the wound the appendix was found apparently normal. After this was removed it was cut open and found normal. Evidently the symptoms did not arise from the condition of the appendix.

An incision was now made in the median line above the umbilicus. The first struc-

ture to present was the stomach, situated much below its normal position. The gastro-hepatic omentum was found much below its normal position. The gastro-hepatic omentum was found much lengthened from above downward. It was folded upon itself and stitched in such a way as to bring the stomach back to its normal position.

The transverse colon could now be seen to sag down into the pelvis like a letter V, and the transverse meso-colon was much elongated. This was treated in the same manner as the gastro-hepatic omentum.

The patient made an uneventful recovery. Her general health improved greatly, and she has been free from all symptoms up to the present time.

Penetrating Wound of Liver.

T. W., aged 19 years, clerk, healthy, on January 1st, 1905, entered the door of shanty just as a man about four feet away from him exploded a dynamite cap, a fragment of which struck the patient in the abdomen.

Patient was brought to Wesley Hospital by Dr. J. S. Kauffman of Blue Island, Illinois. Upon examination we found exactly in the median line in the subcostal angle a hole about one-eighth of an inch in diameter, which had the appearance of a hole made by a harness-maker's punch. The patient's general condition was good, in no way indicating any serious injury. It was thought best, however, to anesthetize him and explore the wound under antiseptic precautions. An incision in the median line was made, and the wound followed through the various layers of the abdominal wall, until it was determined that all had been penetrated, when the peritoneal cavity was freely opened.

A small amount of clotted blood was found in the great omentum. The stomach was examined but no injury found. Upon the convex surface of the liver was found a hole similar to that in the abdominal wall, from

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

which a slight hemorrhage was taking place. A probe passed into this opening to a depth of over one inch failed to locate the foreign body, which evidently was imbedded in the liver substance. A catgut stitch through the peritoneal covering of the liver sufficed to stop the hemorrhage. Abdominal wall closed without drainage.

Recovery absolutely uneventful; highest temperature 99.4 F., highest pulse 88.

The instructive point in this case is the great penetrating power of a very small and light missile, when propelled by so powerful an explosive as dynamite. Before striking the patient's body the missile penetrated several layers of heavy clothing.

Stricture of the Esophagus Following Typhoid Fever.

The patient, E. S., was a male student, 17 years of age, whose father was living and well. Mother died of pulmonary tuberculosis. Patient was temperate, and had had no previous illnesses except the diseases of childhood.

On September 21, 1903, he took to his bed with typhoid fever. On October 15th, while apparently convalescent, he suffered a relapse, and was severely ill for more than three weeks longer. Liquid diet was continued till about November 12th. On this date he partook of semi-solid diet for the first time, and noticed difficulty in swallowing, with frequent choking. This condition gradually grew worse, and about December 10th the attending physician began passing esophageal sounds each day until December 19th, when patient was removed to another hospital. From December 19, 1903, to February 25, 1904, he received no treatment for the stricture, but from that date on a whalebone sound with steel olive tips was used.

On April 12th he became unable to swallow anything, even liquids, and was nourished by rectal alimentation. On April 18th he entered Wesley Hospital, Chicago, and on April 21st was anesthetized with ether. An unsuccessful attempt was made to pass bougies of various sizes, after which gastrostomy was performed, using a vertical incision, with separation of the fibers of the rectus muscle, as advised by von Hacker.

As it was impossible to enter the esophagus through the cardiac orifice of the stomach, the edges of the stomach wound were stitched to the edges of the parietal peritoneum, and a drainage tube inserted. It was not the aim to make a permanent fistula lined with mucous membrane, but it was hoped that the stricture of the esophagus would relax, and the gastric fistula, after serving as a temporary route for nourishing the patient, might be allowed to close.

On April 27th, six days after the operation, the patient could again swallow liquids. On the following day an attempt was made to pass a small bougie, but unsuccessfully. Several similarly unsuccessful attempts were made during the next few days. On May 4th the stricture again closed, so that liquids could not be swallowed, and on July 21st I gave up all hope of ever dilating the stricture, and the patient left the hospital. At this time he was strong and well nourished.

On August 26th after nearly four months of absolute closure he could again swallow liquids, and he returned to the hospital September 4th. Attempts to pass bougies were unsuccessful as before, so efforts were directed to getting something through the stricture by swallowing. Repeated efforts on the part of the patient failed, but on September 29th he informed me that he thought a very fine silk thread had passed through. His stomach was quite full at the time, and upon removal of the tube, which was kept clamped with an artery forceps, there was a free escape of stomach contents, and the end of the thread floated out through the fistula. A heavier thread was at once attached to the mouth end of this one, and drawn through the stricture, and to this a still larger thread attached and drawn through. The two ends of the latter were then tied together, first passing the stomach end through the drainage tube. Each day a larger thread was drawn through and finally three of the largest were in place at one time. On October 18th a small drainage tube was drawn through the stricture and allowed to remain two hours, then withdrawn, to be again drawn into place the next day. Every few

days the size of the tube was increased until early in January, 1905, a No. 14 catheter was used.

On January 11th the string was removed and the drainage tube taken out of the fistula. A bougie was then passed through the stricture per mouth, and this has been continued every day or two up to the present time.

On January 5, 1905, I began giving the patient thiosinamin, grs. iii, once a day. On January 12th this was increased to grs. iii, twice a day, and on January 27th to grs. iii, three times a day. On February 3d this was stopped, as patient complained of a feeling of weakness, which might, however, have resulted from his eating but a small amount of food, owing to the fact that his abdomen was strapped rather tightly with adhesive strips in the effort to close the fistula, and food when taken, except in moderate quantities, distressed him. The administration of the thiosinamin apparently made it possible to increase the caliber of the bougies, and more rapidly than ever.

On February 20, 1905, the patient was anesthetized and the gastric fistula which was now about the diameter of a lead pencil closed by dissecting away the scar-tissue and separating the stomach wall from the abdominal wall sufficiently to insert sutures into the former, but without opening the peritoneal cavity. The abdominal wall was then closed in layers, secondary sutures over a gauze packing being used in the skin. Primary union.

A number 28 esophageal bougie is now passed with ease.

Case of Colloid Carcinoma of the Cecum.

N. P., female, aged 25, single, clerk by occupation, father dead, cause unknown, and mother died of consumption. No brothers or sisters. The personal history was negative until the summer of 1901, when she was seized with pain in the right iliac region. The onset was gradual, and followed in about forty-eight hours by vomiting and high fever. She remained in poor health for six weeks, when a diagnosis of appendicitis was made, and appendix removed. She recovered slowly

after operation, but complained chiefly of weakness.

In August, 1903, patient began to have attacks of pain, vomiting and fever, lasting ten to fourteen days at a time, with intervals of several weeks. Pain was cramping in character, and more generally distributed than before. The latter part of July, 1904, she noticed a slight swelling in the right iliac region. She had pain in right iliac region, which radiated at times into the right lower and upper extremities. She experienced some difficulty in walking. There was much distention of the bowels by gas; constipation.

Examination revealed a firm mass, not adherent to the abdominal wall, with limited mobility.

Operation, Sept. 22, 1904, at Wesley Hospital. A small incision was made over the tumor, and when the nature of the tumor mass was recognized, by examination through this opening, a long median incision was made. The ileum was divided near its lower end. Since it was found that the ascending meso-colon contained enlarged lymphatic glands, almost the entire ascending colon and its meso-colon were removed along with the cecum, the colon being cut across near the hepatic flexure. The ends of the divided bowel were closed by two rows of sutures, and a lateral anastomosis was made by a Murphy button between the ileum and the transverse colon. The ileum was dilated and its walls much thickened. The abdomen was closed without drainage.

The patient had a tedious convalescence. For many days she suffered from great abdominal pain, with occasional emesis, and got very little sleep. Gradually, however, she improved and on October 25th sat up in bed. The button did not pass until October 23d, thirty-one days after the operation. On October 27th she was up in a wheel-chair, and on November 3d, walked. When she left the hospital, November 24, 1904, she was in a fair condition, and when seen about January 1, 1905, was in vigorous health.

The fresh specimen showed the walls of the cecum much thickened and indurated,

with the lumen so reduced in size that the little finger could not be passed through it. Adherent to the cecum was a colloid mass, almost the size and shape of a hen's egg, and there were several similar masses of smaller size in the immediate vicinity.

On February 11, 1905, I met the patient on the street. She looked well but said that two weeks previously she had a few abdominal pains and thought she detected some swelling. On February 14th, I was called to see her at her residence. She was suffering great abdominal pain, and a large mass, filling the entire right lower quadrant of the abdomen, could be palpated. Four days later she was removed to Charity Hospital. The tumor gradually enlarged till it occupied the greater part of the abdominal cavity. Patient died April 16, and on April 17, an autopsy was made by Prof. F. Robert Zeit, to whom I am indebted for a report of the findings, which are in part as follows:

"It appears that one enlarged carcinomatous mesenteric gland, which had been left behind at the operation, was the source of the large secondary growth found at the post-mortem. No other metastatic tumors were found, and this tumor had a distinct capsule and was attached by a pedicle to the mesentery at the seat of the operation.

The anatomical diagnosis was as follows:

1. Solitary metastatic colloid carcinoma of mesentery. Size 40x28x21 cm. Weight 4490 grammes. Adhesions to right ovary and fimbriated extremity of right tube.
2. Pyelonephritis of right kidney and pyoureter (due to pressure of tumor causing intermittent obstruction).
3. Enterocolitis with pelvic fibrinous peritonitis and perforating ulcer of ileum. Septicemia.

The last condition was the direct cause of death."

Discussion on the Cases of Dr. Plummer.

Dr. P. L. Markley, of Rockford: Mr. President—I would like to ask Dr. Plummer as to the result of the operation in the case of gastroenteroptosis. He did not tell us what the result of the operation was, whether he rid the patient of the symptoms or not.

Dr. William M. Harsha, of Chicago: I would like to ask Dr. Plummer as to the method he

used in shortening the meso-colon? I understood him to say that it was treated in like manner as the gastro-hepatic omentum. I would also like to ask if there was any further fixation used than the shortening of the meso-colon; and if there were any signs of intestinal obstruction before the operation?

Dr. _____: I would like to ask the essayist as to the cause of the stricture of the esophagus in the case following typhoid fever?

Dr. Plummer (closing the discussion): The result in the case of gastroenteroptosis was most satisfactory, in that the symptoms were all relieved, and the general health of the patient improved very much afterwards.

In answer to Dr. Harsha's question as to the method of fixation, it consisted simply of taking up the meso-colon in the manner that a dress-maker takes a tuck folding it over, and stitching it up. There was no other fixation except shortening of the meso-colon.

As to symptoms of intestinal obstruction, in the case of carcinoma, they were those of partial obstruction. It was thought that the symptoms were those of appendicitis, inasmuch as the patient had attacks of vomiting and pain.

As to the cause of the stricture of the esophagus, in the young man, there is not much written on the pathology of strictures of the esophagus caused by typhoid fever. There does occur, however, with typhoid fever, a catarrhal esophagitis sometimes, with slight ulceration. This might be a cause, but whether there is an ulceration similar to that which takes place in the ileum, I am not sure.

The literature is scanty in regard to the pathology of stricture of the esophagus resulting from typhoid fever.

THE INDICATIONS FOR OPENING THE MASTOID PROCESS IN CASES OF ACUTE EMPYEMA OF THE CELLS WHEN THERE IS AN ABSENCE OF SIGNS OVER THE EXTERNAL SURFACE OF THE MASTOID.*

BY GEORGE E. SHAMBAUGH, M. D., CHICAGO.

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Empyema of the Mastoid Cells complicating acute purulent Otitis Media is a condition recognized fully as grave in its possibilities as that of an inflammation involving the appendix. It is a condition too where the indications demanding operative interference may be as obscure and as difficult to interpret as is often found in an involvement of the appendix.

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

Every one is familiar with the external evidence of mastoid empyema which calls for operative interference such as tenderness over the mastoid with the red and often fluctuating tumor over the process. That there are cases of mastoiditis following acute otitis media which demand an operation even more imperatively, and yet show no external signs over the mastoid is perhaps not so generally known.

In order to understand these cases it is necessary to keep in mind several points in the structure of the mastoid process. In the first place this process is but slightly developed in early childhood and at this age there exist no mastoid cells whatever. The antrum which lies at the base of the process is, as its name antrum tympanicum implies, only a part of the tympanic cavity. As the mastoid increases in size its body is occupied largely by air cells extensions from the antrum with which they continue to communicate. The number and size of these cells, and the extent to which they fill the mastoid varies widely in different cases. At times the whole mastoid is honey-combed with cells having but a thin outer shell of bone. In other cases these cells have failed to develop at all, and the whole process is filled with spongy bone.

In the second place the outer shell of the mastoid varies in different cases from a thin sheet of bone to a dense hard plate 5 mm. and more in thickness. This covering of the mastoid is less dense and more permeated with blood vessels in childhood and early adult life than is the case later in life. The tip of the process is usually occupied by several cells much larger than those found in the remainder of the process, and it frequently happens that the shell of bone separating these cells from the digastric fossa is very thin and frail, whereas the outer shell of the tip is hard and dense. Still another anatomical point of great importance in the diagnosis of empyema of the mastoid cells is the fact that the antrum occupies a position directly above and back of the inner third of the bony meatus separated often by a comparatively thin shell of bone from the external meatus.

When an empyema of the mastoid develops in acute otitis media tenderness on pressure is often found over the location of the abscess, or if the cells are generally involved tender-

ness is first noted above the antrum by pressing just below the linea temporalis just back of the canal and at the tip of the process where the bony covering of the cells is quite thin. If the case is a well-developed one redness and swelling usually appears over the process. This is due to the extension of the inflammatory process involving the pneumatic spaces in the mastoid to the periosteum covering the process. This secondary periostitis occurs early in childhood, and in those adults where the covering of the process is thin and permeable. It occurs later or not at all in those cases where the covering is firm and dense as is not infrequently found in adult life. The late appearance or complete absence of any evidence of inflammation over the mastoid can not therefore be interpreted as showing the absence of an empyema of the mastoid, but on the other hand the very fact that these external symptoms are absent in certain cases where an involvement of the cells is shown to exist from other signs may in itself constitute an added indication for an early operation because the resisting outer shell will force the abscess to rupture on the inner side of the process with much more serious results than when it ruptures externally.

What are the indications which point to the existence of a mastoid abscess in the course of an acute otitis media in the absence of signs over the external surface of the process?

In the first place such cases rarely if ever develop in early life or in children, for here the outer shell of the process is quite porous, and readily permits of the extension of the inflammatory process going on within the pneumatic spaces to the periosteum covering the process.

Whenever in the course of an acute purulent otitis media there occurs a sagging down of the membrane lining the inner end of the upper posterior wall of the external meatus especially when there is associated a rise of temperature, this sign is alone a positive evidence of the existence of a mastoid abscess even though there is a complete absence of any signs over the external surface of the process. The only condition that might be confused with the above sign is the existence of a furuncle at this point in the meatus, but it is extremely uncommon for a furuncle to develop in this locality. They usual-

ly form near the outer end of the external canal and on the anterior lower wall.

Whenever in the course of an acute otitis media a tender sometimes fluctuating swelling occurs in the soft tissues of the neck below the tip of the mastoid, even though no signs are present over the mastoid, the presence of an abscess in the large cells at the tip of the mastoid is probable, the swelling in the neck being caused by the rupture of the abscess into the digastric fossa beneath the sterno mastoid muscle. This constitutes the so-called Bezold type of mastoiditis.

In still another class of cases are the indications for opening the mastoid quite clearly defined, these are the cases however, where the indications are not so generally recognized even by Otologists. These include the cases of acute otitis media where after the subsidence of the first violent symptoms, and in spite of rational treatment, the discharge continues very profuse for a period longer than 4 to 5 weeks and the membrana tympani in spite of the free escape of pus appears injected, and with the upper posterior quadrant bulging. In these cases the question of opening the mastoid and supplying better drainage should be considered especially for the purpose of preserving the function of hearing.

Discussion on the Paper of Dr. Shambaugh.

Dr. William L. Ballenger, of Chicago: I want to say a word or two on this excellent paper, although the hour is late.

The essayist has called our attention to a very important fact, one that is well recognized perhaps by otologists in general, but not as well recognized as it should be by all of us, and that is, we may have in acute cases of mastoiditis positive indications for operation, where the outer cortex of the mastoid gives no sign of inflammation, no tenderness, or pain in this region. He stated that these cases usually occur in adults rather than in children for anatomical reasons, and perhaps he also stated, for pathological reasons also, most of the cases are found in adults. He has shown us that the inner cortex is thinner than the external in adults than it is in children. In children the cortex on the inner surface is thin, so that symptoms may be manifest through it. But there are exceptions.

I remember very well a case of a little child, six or eight years of age, who had developed mastoiditis in one ear; there was a perforation; in the other there was none. There was no pain on either side; but there was pronounced deafness, and the only tenderness that could be elicited was over the antrum of the opposite side. I had the patient removed to the hospital at once, and operated within three

or four hours after seeing the patient. I found there was destruction of the mastoid bone on both sides, although, as I have stated, there was no perforation of the drumhead, but simply a bulging. I think we have many other indications for operation when there is no pain. For instance, if we find that the perforation is marginal, it is quite significant in many cases of a destructive process, of ulceration, which may often involve in the acute cases the bony tissue itself. If perforation of the drumhead is central, it is almost invariably a simple case, and one in which there is very little destruction. But the location of the perforation is often of great significance in the chronic cases. In the case, such as Dr. Pierce reported this afternoon, in which there was perforation in the region of the malleus, we would expect to find necrosis of the antrum or of the attic itself; so we find that there are numerous cases wherein there is positive destruction of the mastoid region in which there are no external signs of the disease itself.

Another indication for operation would be facial paralysis. We might go on naming other indications for the operation where there are no external evidences, so far as the mastoid itself is concerned.

Dr. J. F. Percy, of Galesburg: I would like to ask if the specimens that have been passed around are supposed to be the normal average of this condition of the bone? Were any of these specimens taken from patients who were the subjects of disease of which the paper treated?

Dr. Shambaugh: No.

Dr. Percy: I suppose the specimens merely illustrate the thickness of the outer wall in a certain class of cases. It occurs to me that two of the five specimens that have been passed around are pathological; that is, the thickening in two of them is evidence that the bone has undergone, at some time or other, an inflammatory process, and we have that ivory-like condition of the bone which results from chronic inflammation. And I speak of this because of the chronic cases that are running around in every community—adults and even children with discharging ears. An acute condition develops, and these patients will not have the external evidences of mastoid disease simply cause the bone is so dense, it is utterly impossible for any infective process to get through it.

I would like to ask the essayist whether he finds this variance in thickness in so-called normal bone?

Dr. Geo. E. Shambaugh, Chicago, (closing the discussion): In reply to the question raised by the last speaker (Dr. Percy), that the absence of pneumatic cells in the mastoid process of one of the preparations exhibited might be due to sclerosing process the result of chronic inflammation going on in the mastoid process, I will say that there can be no doubt in regard to the nature of the preparation shown. The absence of pneumatic cells in the mastoid of this temporal bone is a normal condition, and not the result of obliteration due to a sclerosing process. The temporal bone from the opposite

side shows exactly the same formation. The mastoid process here is occupied by diploëtic bone whereas the condition found as the result of hardening caused from chronic inflammation presents quite a different appearance. The thickness of the outer shell of the mastoid process varies greatly under normal conditions, and the practical point to be kept in mind is that suppuration occurring in the pneumatic spaces of a mastoid where the outer shell is dense and hard may result in serious complications without even producing any external evidence over the mastoid process.

SOME ERRORS IN THE DIAGNOSIS OF ABDOMINAL TROUBLES.*

BY CLIFFORD U. COLLINS, M. D., PEORIA.

Perfection in diagnosis marks the highest development in the science of medicine.

With a correct diagnosis it is not hard to institute the proper treatment.

The development of diagnosis has been a difficult process marked by many errors.

The unwritten history of the development of diagnosis would probably be more interesting and instructive than that which is written. If each error, and the causes that led to it, were reported others could avoid that same error.

It is with this thought that the following is submitted.

Lawyers say that the Supreme Court decisions are accepted as final because they have the last *guess* as to the correct principle involved in a case, and the writer has often thought it would be a comforting position to be accepted as a final authority in the diagnosis of a case. But while it would make the diagnosis *easier* it would probably not make it *better*. Almost anyone can diagnose, but not everyone can *correctly* diagnose. It is one thing to read of the diagnostic symptoms in the books and quite another thing to stand at the bedside and make a correct diagnosis.

The writer heard of a diagnosis the other day that spoke loudly of the uncertainty of the examiner, and suggested that there might be "shotgun diagnoses" as well as "shotgun prescriptions." The patient in question was told that she had an inflamed appendix, an enlarged and inflamed gallbladder, and a tender movable right kidney. Another patient said that she had been operated on some time before and a "visceral tumor"

removed from her abdomen. These are offered for the benefit of any member who might be in a tight place sometime.

The difficulties in the way of a correct diagnosis are so great that they seem almost insurmountable if considered alone. Of the five senses given us we are compelled to make a diagnosis in the most of cases on what we learn by the use of a minority, or two of them, feeling and hearing. "Seeing is believing," yet the sense of sight is denied us. In the case of a large growth or tumor the eye may see the outlines but the skin is an opaque veil which conceals its true character. How often we have gazed at an abdomen and have longed to look past the impenetrable surface and *see* what lay beneath.

The amount of tenderness, rigidity of the abdominal muscles, and the presence and size of an inflammatory mass or new growth are demonstrated by the sense of touch, and the quality and rate of the pulse are obtained by the sense of touch. The temperature of the body was estimated in times past by the sense of touch until someone invented the clinical thermometer which enabled the sense of sight to convey to the brain of the examiner the exact degree of body heat.

The sense of hearing is called to corroborate the sense of touch as to the presence of an inflammatory mass or new growth by conveying to the brain of the examiner the sound of flatness or dullness on percussion. The history of the case, which is of so much importance, is obtained from the patient through the sense of hearing. Any method by which the findings of these two senses may be corroborated by a third has been gladly welcomed by the profession. The X-Ray apparatuses, which permitted the use of sight in certain cases, were eagerly received. Various diagnostic electric lamps are being used to illuminate the accessible mucous cavities as the stomach and bladder. An instrument called the piezometer has been made to enable the examiner to estimate with the eye the amount of tenderness and the rigidity of the abdominal muscles. The exploratory incision has been frequently used in obscure cases to allow the sense of sight to corroborate or disprove the diagnosis formed from the evidence obtained by the touch and hearing, and where there is any doubt in the mind of a competent observer, after all corroborative diagnostic measures have been used, as to whether a case calls

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

for medical or surgical treatment an exploratory incision is justifiable and should be made.

The increasing number of operations throughout the country is a proof that the ability to diagnose surgical conditions is improving. This is due to the fact that by operations the surgeon is enabled to use his sense of sight to prove or disprove a diagnosis made by touch and hearing. In medical cases so often the diagnosis is never made absolute for lack of opportunity to bring the aid of another sense to confirm or destroy it. Many a diagnosis would be overthrown, and much knowledge gained, were it the custom to hold postmortems on all fatal cases where there was any doubt as to the correctness of the diagnosis. The tales that dead men tell are often strangely at variance with the tales they seem to tell when living.

In gaining our knowledge of a case with the limited means at our command it is exceedingly necessary that every possible source of error be excluded. In making palpation the patient sometimes is, or claims to be, a great deal more sensitive than the pathological condition present warrants. On the other hand, some patients from stoicism, bravado, or an anesthetic condition of the nervous system, do not complain of the necessary tenderness on pressure over the abdomen that should accompany the inflamed organ beneath. In two recent cases of appendicitis the patients would not admit that there was the least tenderness on deep pressure over McBurney's point and the right lower abdomen. The first one complained of a little tenderness on the right side when examined through the rectum. As she gave a history of three typical attacks a diagnosis of appendicitis was made, and the operation revealed an inflamed appendix which contained a drachm of thick yellow pus. The second case gave no evidence of tenderness on pressure over McBurney's point but complained of considerable tenderness in the right pelvis on examination through the vagina, and a long, hard, sensitive body about the size and shape of the finger was felt. There was no history of any attacks of appendicitis, so a diagnosis of right salpingitis was made. At the operation a large swollen appendix containing pus was removed.

In getting a history of the case some patients exaggerate every symptom, and their

statements have to be taken with some degree of allowance, while other patients, from fear of an operation, or from a peculiarity in their mental make-up, tend to minify their symptoms. In a recent case seen by the writer, a jaundiced patient disclaimed any attacks of severe pain or chills. The family physician, however, in the private consultation following the examination, said that he had been called several times when the patient was making loud outcries of pain and it took a half-grain of morphine to relieve her. He had also seen her in rigors followed by fever. This shows the necessity and importance of getting the attending physician's knowledge of a case. This jaundiced lady was evidently afraid of an operation and did not propose to say or do anything that would lend encouragement to such a procedure. The operation revealed a gall stone in the common duct.

And now that we have considered the difficulties that beset the examiner, that we have found that most of his knowledge of a case comes to him by indirect routes, we almost wonder that a correct diagnosis is ever made. But let it be said to the glory and pride of the medical profession that the per centage of incorrect diagnoses is very small and is getting smaller each year.

It is not the purpose of this article to go into a long discussion of how errors in diagnosis may be avoided, but one good way to ever keep in mind past errors, and the reason for them, is to keep a record of every case. The writer's record cards have a line at the bottom for the diagnosis. When the evidence in the shape of the family history, the statement of the patient, and the findings of the examination, have all been written on the card, it is studied and the diagnosis filled in on the bottom line. At the top is a line for the conditions found at the operation. The two *should* correspond. When the examiner knows that every error in diagnosis will be put down in black and white, mutely testifying against him as long as he lives, he will constantly try to avoid them.

If the Society will pardon a reference to a personal article, the writer, in an article entitled "System in a Physician's Office" read before the Peoria City Medical Society some years ago, said about case record cards: "It has been observed by the writer that physicians as a class dwell long and lovingly

on their successes and forget their mistakes and failures as quickly as possible. An honest record of his cases and his manner of treating them, with the results, would have a tendency to keep the physician from making the same mistake twice, would also keep him from developing an undue amount of conceit, and would engender in him more charity for the errors of his fellow-practitioners."

The following cases are taken from the writer's record cards:

Case 1. Miss J. M., aged 24, had pneumonia seven years before when seventeen years old. After that she had attacks of pain in the stomach which had been diagnosed as "neuralgia of the stomach." She had had no colicky pain in the right side and had not been jaundiced. The patient was taken ill with pain in the stomach and vomiting. The writer was called to see her January 3, 1901, and found great tenderness and pain under McBurney's point, the right rectus muscle rigid, the temperature 102°, and the pulse rate 100. She was removed to the St. Francis Hospital where she improved markedly. The patient was short and very fleshy. She was not jaundiced but there was a slight lemon yellow tint to the skin. She did not complain of tenderness on pressure over the gall bladder. There was a little tenderness on pressure over McBurney's point. The temperature and pulse were normal. The acute attack was diagnosed as appendicitis.

An incision was made through the right rectus muscle. The appendix had thickened walls and showed signs of recent inflammation, but its condition did not seem to account for the acuteness of the symptoms a few days before. It was removed. The pelvic organs were examined and found normal. The gall bladder was examined and found enlarged and inflamed with the omentum adhered to it, and stones could be felt in it. The incision was extended upwards and the gall bladder opened. Two ounces of pus and sixty gall stones were removed and a drainage tube placed in the gall bladder. Death occurred on the third day.

The extreme fleshiness of the patient probably prevented enough pressure over the gall bladder to elicit tenderness. More weight should have been given to the attacks of pain in the stomach which had been diagnosed as "neuralgia of the stomach." This nearly

always means gall stones. Also the lemon color of the skin was strongly suggestive of cholecystitis as pointed out by Ochsner.

Case 2. It is said that every surgeon practicing abdominal surgery must sooner or later cut down on the pregnant uterus. If that be true the writer does not have to dread the inevitable.

Miss M. C., aged 35, developed an enlargement of the abdomen and was seen in 1901. After an examination a diagnosis of fibroid tumor of the uterus was made and when the abdomen was opened the next morning a pregnant uterus was disclosed. The incision was sutured, healing took place promptly, and in due time the patient was delivered of a ten pound girl without any bad results.

This error was totally inexcusable. Without going into harrowing details, suffice it to say that the writer then and there lost all confidence in the statements of the woman in such cases. The recollection of the feeling that came over him when the abdomen was opened even now, at times, wakes him up at night like a night-mare. Although he has been called many times since to decide a question of possible pregnancy he has never repeated the error.

Case 3. Mrs. R. S. widow, aged 34, had two children the youngest being eight months old. She had rheumatism (?) about three weeks before entering the hospital. On July 5, 1904, she took sick with cramps in the stomach, starting on both sides and going down towards the pelvis, accompanied with vomiting and running off of the bowels. There was no history of anything like collapse. The pain lasted several days with tympanitis and great tenderness over the abdomen, and rigidity of the right rectus muscle. The temperature reached 103°, pulse 120. In the beginning of the attack she was brought to the St. Francis Hospital where she improved considerably. Operation was urged but she refused it and went home. She became worse and returned in five days. She was very sore on pressure over McBurney's point, and the right rectus muscle was somewhat rigid. She was fleshy, but an indistinct mass could be felt high up in the pelvis on bimanual examination. The temperature was 100°, pulse 100. On account of the suddenness of the attack and the symptoms a diagnosis was made of appendicitis.

When the abdomen was opened the pelvis was found full of dark, clotted blood. The

right tube was enlarged with a ragged hole in its side. The hole opened into a cavity large enough to contain a fetus of four to six weeks advancement. The right tube, and the clotted blood, was removed. The appendix was a short, atrophied affair, one-half inch long, and was left. No fetus was found, and no pus, although the patient had a temperature of 103° at the beginning of the attack and some fever at the time of operation. In questioning the patient afterwards we found that the rheumatism had been practically confined to the right leg, and she had been sick at her stomach for three weeks prior to the operation. Her recovery was uneventful.

Case 4. Mrs. T. M., aged 44, had been operated on successfully for strangulated right inguinal hernia about four years before. She had had hernia in the left groin for several years and had worn a truss for some time. On December 24, 1904, the hernia came down and was reduced except a small lump that felt like a little portion of omentum. This lay over the external ring and could not be reduced. She was brought to the St. Francis Hospital where she was first seen by the writer. The patient was fleshy. A diagnosis was made of unreduced inguinal omental hernia.

The incision revealed a small, dark, hard mass just above the external ring, but it proved to be a cyst, containing a clear fluid, at the end of a sac. When the sac was dissected out it led down to the femoral ring. The recovery was uneventful. The history of an inguinal hernia on the right side, and the presence of a small irreducible mass in the left external inguinal ring, led to the error.

A deep layer of fat over the abdomen greatly increases the difficulty of diagnosis. Three of the above patients were fleshy.

While we are all endeavoring to approach perfection in diagnosis, it is highly probable that some errors will always be made. Although these errors are annoying, each one conveys a lesson, and, if studied and interpreted correctly, will result in much good to the examiner. As James Russell Lowell says: "One thorn of experience is worth a whole wilderness of warning."

The keeping of complete case records will permit of close and careful study of each error and lead to success; because, as someone has defined it, "Success does not consist in

not making any mistakes, but in not making the same mistake twice."

Discussion on the Paper of Dr. Collins.

Dr. P. L. Markley, of Rockford: Mr. President.—I think that if we were all willing to discuss our mistakes, we would have a good deal of discussion on this subject. I can recall several cases in which a diagnosis was made before operation, but which afterwards proved to be entirely different from the diagnosis made before the operation. I recall one case in particular of a tumor in the region of the cecum, the attending physician in the case made a diagnosis of appendicitis. The tumor approximately was as large as a man's fist. Another physician made a diagnosis of ovarian cyst. I made a diagnosis of carcinoma of the cecum, and operated with that diagnosis in view. I cut down on to the tumor, which proved to be a distended gall-bladder, with prolapsed liver, five inches below the normal location of the gall-bladder.

Another case I recall had all the symptoms of extra-uterine pregnancy. There were six physicians who agreed as to that diagnosis, but the operation disclosed a dermoid cyst.

Dr. S. C. Plummer, of Chicago: I have already put myself on record as having diagnosed a case as appendicitis which turned out to be gastroenteroptosis.

I have in mind an interesting case in which I made a mistake in diagnosis. I took the precaution, however, to have the counsel of an expert in internal medicine and to have him examine the patient. He did so, and made the same diagnosis that I did. It was a case of tumor situated in the exact location of the gall-bladder, and the exact shape of an enlarged gall-bladder; consequently we expected to find trouble in the gall-bladder, probably gall-stones, or else a greatly thickened gall-bladder. I started to make an incision to reach the gall-bladder, which was made over the right rectus muscle and the fibers of the muscle split, and when I got through the abdominal wall, except the peritoneum, and had opened the posterior sheath of the rectus, I came upon a mass of material which was rather caseous, hard to describe. It was half way between the caseous material of a broken-down tubercular gland and the rice bodies which we sometimes find along the tendons in tubercular tendo-synovitis. The whole trouble was between the posterior sheath of the rectus and peritoneum, the cavity containing an ounce and a half of this material. It was scraped out, the cavity was packed with iodoform gauze, and healing took place without any further trouble. There was no trouble in the gall-bladder whatever. Unfortunately a diagnosis of the exact nature of the trouble was not made. The material was lost in the laboratory, but apparently there was a tubercular focus in this neighborhood.

Dr. William M. Harsha, of Chicago: The experiences related by the essayist are similar in many respects to my own.

Within two weeks I saw a man who had a history of acute stomach trouble; pain, indigestion occurring soon after eating a full meal. The next day he began to have elevation of temperature, and each day he had a temperature which rose as high as 104° at about the same hour, which the attending physician construed to be malarial, and treated the man accordingly. At the end of two weeks he was still having the same high temperature; he had yellow conjunctivae and other evidences of sepsis with a leucocyte count of 20,000, with no local tenderness except a slight degree of it over the normal site of the apex of the gall-bladder, or rather the fundus of it. An incision was made over the gall-bladder, with a probable diagnosis having been made of empyema of the gall-bladder. There were no abnormal signs; no peritonitis; no distention of the gall-bladder; no gall-stones, but on going down toward the appendix a large abscess was discovered. The upper limits of the abscess were within an inch of the gall-bladder. Here was a case where there was evidently partial anesthesia of the tissues due probably to long-continued sepsis or toxemia. The history of this case is interesting because the only typical thing about it was the general abdominal pain, severe in character, occurring soon after eating, which would make one suspect appendicitis rather than gall-stone colic.

The diagnosis might have been made if the patient had been examined under an anesthetic. That applies to many of these cases, and if we were to resort to anesthesia more frequently in our examinations, we would be able to make accurate diagnosis oftener. And in a case of that sort it is a warrantable procedure.

Dr. Denslow Lewis, of Chicago: I am going to confess frankly that I have had my full share of mistakes in the diagnosis of these cases. I have not infrequently operated for appendicitis and found right pyosalpinx, and vice versa. I have operated expecting to find myoma, but found a tubo-ovarian abscess. I have operated with the expectation of finding gall-stones, but have found adhesions. I think every abdominal surgeon of any experience who tells the truth must acknowledge that he has often made mistakes in diagnosis. I do not think there should be any hesitancy in making this acknowledgement. In one class of cases especially we are liable to make mistakes. I have more often found adhesions between intestines and abscesses between intestines where I diagnosed pyosalpinx or some form of ovarian abscess. That mistake has been singularly common with me, and while it made no difference in the ultimate outcome in many instances, it has been humiliating, not only because of mistakes in diagnosis, but humiliating because the actual condition was not recognized earlier. The practical point of this discussion is that we should operate very much earlier than we do in most cases. The abdominal operation, as performed today, with suitable asepsis, and by an experienced surgeon, is practically devoid of danger. At all events, it is infinitely to be preferred to procrastination, which jeopardizes too often many a life. The

lesson we learn is this: In the obscure cases, where there is evidently an abdominal lesion, operation should be done early, because in these conditions we are more apt to make a diagnosis accurately and apply the proper remedy.

SURGICAL TUBERCULOSIS.*

BY W. E. GUTHRIE, BLOOMINGTON, ILL.

The tubercle bacillus is man's most powerful and most active enemy. Though this warrior is microscopic in size, his great numbers, endurance, persistent activity and insidious methods make him an antagonist greatly to be feared and worthy of our best planned strategy. The physician deploys his columns out of sight of the enemy and fires his projectiles at long range; but the surgeon is expected to hurl his forces directly into the bacillary camp and drive out its occupants at the point of the scalpel. To relate what the latter has done and may be expected to do is the dole set for my pen today.

This bacillus is a treacherous enemy. When wandering in the domain of the strong, he is a very innocent, harmless gentleman; but allow him entrance to the territory of the weak, whose cellular defenses are not well developed, and he becomes a mighty devastating force. He employs guerrilla methods. His ravages are plainly to be seen; but it is only when the searchlight of the microscope is turned full upon him that his presence is discovered. It is an every day exemplification of Lilliput and Brobdingnag.

From the crown of his head to the soles of his feet no piece of man's connective tissue is exempt from the tubercular process. His common carriers, the vascular and lymphatic systems, are open to the commerce of his enemies. His rafts, constructed to carry rations to his defenses, may bear instead the means for their destruction. True, guards are placed at all ports of entry. But these guards are often overworked and underfed and fail to do their full duty.

One, or more, tubercle bacilli find a resting place on a tonsil, or other exposed surface. Being enterprising and ready for an adven-

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

ture, they join the throng traveling along the highway of the absorbents. At a lymphatic gland they find their progress interfered with. They push their way into a nice, attractive cell and proceed to housekeeping. But their presence is not kindly received by the cell. It swells with anger, undertakes to develop itself into more and stronger cells, but succeeds in the development of nuclei only. These nuclei assemble at the circumference of the cell and try to break its wall. The wall breaks not and the cell continues to swell. This is the giant cell. It becomes larger and larger until nourishment cannot reach its interior and there begins a process of degeneration. The bacilli invade other cells and in many the same process is continued. In some, although the cell swells and new nuclei are formed, the cell wall ruptures and the cell divides; but its children are much larger than their mother. These are termed epithelioid cells. Around these are the leucocytes hastening to defend the vital fortress against the invaders. These, the giant cells, the epithelioid cells and the leucocytes, or lymphoid, cells, together, make up what is called a tubercle—and these may multiply indefinitely.

Several life, or death, processes await the tubercle. It may be overcome by the leucocytes and absorbed; it may become encapsulated and remain quiescent indefinitely until set free by a rupture of its capsule, when it again becomes active; it may undergo a cheesy like degeneration; it may undergo a calcareous degeneration; or other bacteria may join the tubercular force and induce suppuration. This is an approximate life history of a tubercle. It may enter the system through the respiratory tract, the digestive tract, or any of its mucous surfaces; it may gain entrance through an abrasion of the skin and the blood and lymphatics may carry it into any organ or tissue. Cells weakened by starvation or disease fall easy prey; but those with plentiful vigor fight their defensive battle to a finish.

The surgeon's duty is to remove, where possible, the invading tubercle, protect the diseased tissues from other bacterial enemies and to improve their vitality. The

knife and the curette serve the one purpose, asepsis the second and nourishing food, immobilization and abundant fresh air the other.

In the various tissues we find, among others, the following tuberculous diseases more or less amenable to surgical treatment: In the skin and subcutaneous tissues lupus, cold abscesses and onychia; in the glandular tissues, tuberculosis of the lymphatic glands, of the kidneys, of the breast, of the testicle, of the prostate; in mucous and submucous tissues, tuberculous middle ear disease, tuberculosis of the antrum and other adnasal cavities, of the appendix vermiformis, of the rectum and anus, of the pelvis of the kidney, of the ureter and the bladder, of the seminal vesicles and of the Fallopian tubes and of the uterus; in serous and subserous tissues, tuberculosis of bursae, sheaths of tendons, synovial membranes, of the pleura and of the peritoneum; in the bones, tubercular foci in the cancellous tissue, mastoid abscess, osteo-myelitis.

To treat the entire subject of surgical tuberculosis exhaustively would require reams of paper and streams of research too heavy and too long for a brochure of this character. I shall undertake to recall to your minds only a few facts and opinions concerning some of the more common or important tubercular diseases which the surgeon may be expected to handle.

Tuberculosis of the kidney may occur at any time of life, but is most frequent in youth. It may result from an infection arising from the genital organs, through the blood, or from direct spread of a contiguous tubercular inflammation. Bacilli carried by the blood and deposited in the corticle of the kidney is the common origin. A very large proportion of consumptives have sooner or later renal tubercular complications. From the kidney it is easy for the bacilli to find their way down the ureter into the bladder, infecting both. Once the bladder has become diseased the infection may ascend the other ureter and involve the opposite kidney.

The disease may occasion no symptom beyond the admixture of pus and a little blood with the urine, some tenderness over the kid-

ney, frequent urination and a slight increase of temperature. On the other hand it may cause a fever, frequently mistaken for typhoid, and a colic very similar to that of renal calculus. But the fever has not the regular daily curve of typhoid. As the process of cheesy degeneration goes on in the kidney shred like masses pass out with the urine, or may entirely occlude the ureter. This causes the most intense pain, often accompanied by vomiting. The crucial test in diagnosis is the discovery of the tubercular bacilli in the centrifuged urine.

If the disease is limited to the one kidney, or if the ureter and bladder are diseased and the other kidney free, nephrectomy and ureterectomy are indicated. It is wonderful how quickly a tubercular bladder will heal when infection from above is removed. But if the opposite kidney is involved or the tubercular process is active in other organs the kidney should be left alone, or, at most, opened, curetted and drained. In the latter event there is much danger of setting up a mixed infection and adding greatly to the gravity. Most cases of tubercular kidney do not recover. Nephrectomy has saved many lives and fresh air and forced feeding have aided the recovery of others; nevertheless, the prognosis is bad.

Tubercular disease of the hip joint is a disease of childhood, but is by no means confined to early life. Children between the ages of five and ten years make up the majority of cases. In some way, by injury or otherwise, the vitality of the tissues in and around the joint is lowered. The bacilli are brought by the blood and, especially in children, begin business on the articular side of the diaphysis. They multiply and produce new growths of cheesy, gelatinous or granulation tissue. In this stage little or no irritation is produced and the symptoms are often overlooked. For this very reason this is the most important stage of the disease from the point of diagnosis and prognosis. The child becomes easily tired and shows a disinclination to play. There is a slight limp, particularly in the morning, which passes off after exercise, some pain may be complained of at the anterior and interior side of the thigh or

at the knee and the mother thinks they may be "growing pains." When the joint is examined pain may be absent and movement almost, or quite, perfect; but about the hip may be noted a slight rigidity of muscles, especially the adductors, and there may be slight atrophy of the thigh.

Next follows the stage of arthritis in which the symptoms become positive. There is no doubt about a limp, for it now becomes positive lameness. Rigidity of the adductor muscles and atrophy of the muscles of the thigh are now unquestionably present. Yet up to this time attention may be directed to the wrong joint, for the pain may be persistently felt in the knee, due to the distribution of the obturator nerve. If the tubercular process is situated within the head of the bone it may cause no swelling or fever until it advances to the joint surface and involves the synovial membrane. Then an effusion manifests itself under Poupert's ligament or in Scarpa's triangle, the fold of the buttock is partially or entirely obliterated, the thigh is partially flexed and the foot everted. Pain is almost sure to be worse at night and is likely to be of a jerking character. The muscles of the thigh contract spasmodically and forcibly jerk the sore head of the femur into the acetabulum. The suffering and the incident loss of sleep may rapidly steal away the patient's strength and make him all the more surely the victim of the tubercular process. Nature always tries to limit motion in a diseased joint. This gives us one of the earliest diagnostic signs of this disease. If the patient lie flat upon his back and the suspected leg be pressed down, extended, upon the table, the lumbar spine will be found to arch upward; so much so that the hand may easily be passed between it and the table. If an effort be made to flex the thigh sharply upon the abdomen, the pelvis will be observed to tilt upward in company with the thigh. Nature tries to prevent irritation of that joint.

Effusion, even when considerable in amount, may be reabsorbed, but it is just as likely to go on increasing until it breaks through the weakened capsule. It then pours out into the neighboring tissues, in-

fecting them with myriads of tubercle bacilli. This relief of tension gives temporary relief from pain; but it is only temporary. The burrowing continues until the fluid reaches the surface and a mixed infection ensues, adding greatly to the gravity of the case. Instead of fluid the joint cavity may be filled with a gelatinous material. The new surgeon may feel certain he has an abscess to deal with and feels deep chagrin when his knife exposes no pus.

With the advent of mixed infection destruction of the joint and the third stage, that of destruction, begins. The acetabulum breaks down at the upper segment of its circumference. The head of the femur, responding to the tractile power of the muscles, plows a furrow along the dorsum of the ilium, changing the acetabulum from a round cavity into an oblong depression. This is not a dislocation, for it is only the acetabulum which is changed. The head of the femur does not leave the socket and the capsule forms new attachments as the wasting proceeds. Measurement from the anterior superior spinous process of the ilium may show a shortening of one-half to three-quarters of an inch. But if the ulcerative process around the femoral head progresses far enough the round ligament gives up its struggle to keep the head in its acetabular home, bids it a regretful adieu and a separation occurs which knows no reconciliation. The head generally strays to the dorsum illi, where it dies, a stranger, or remains there permanently, an uncomfortable prisoner. Even at this stage, with proper treatment, the disease may turn in the direction of recovery. In favorable cases the supuration gradually abates, bone destruction ceases and repair begins. All dead tissue is thrown off by molecular wasting and the joint is left in a condition of bony ankylosis. Unfavorable, or badly treated cases, go on from bad to worse, new abscesses and sinuses forming until vitality is exhausted and death ensues. More frequently it happens that the tubercular infection spreads to some of the internal organs, generally the lungs, and the journey is completed by a shorter and more comfortable route.

Two main indications for treatment pre-

sent themselves: to put the part at rest and improve the nutrition of the patient. Various implements for immobilization and extension of the joint have been devised. It makes not so much difference which one is chosen, so it does the work. During the period of fever or pain the patient should be kept in bed. The brace should be worn many months after all symptoms have ceased. The injection of iodoform and glycerin into the joint may destroy the bacilli and cut short the tubercular process. But woe betide the patient if this procedure be not attended by the most scrupulous attention to asepsis.

In severe cases the joint may be resected. But I believe the best success will attend the treatment which puts the joint at rest and then leaves it as nearly as possible alone, devoting the attention largely and continually to the improvement of the patient's nutrition.

Tuberculosis of the other joints of the body pursues a course much akin to that of the hip joint described. In the knee, wrist and ankle the synovial surface is so large in proportion to the size of the joint that it is earlier and more easily discovered. This assertion is only true when the disease involves the synovial surfaces. The presence of a tubercular focus in the cancellous tissue in the ends of the long bones may be long undiscovered and the patient be treated for rheumatism, or osteo-myelitis may be suspected; and only when it has involved the synovial membrane does the true character of the process become apparent.

Being easily accessible, these joints have been best treated by the injection of sterilized iodoform in glycerine. This is a 10 to 20 per cent solution, of which one dram to two ounces may be injected into the joint every three to six days, choosing a new point of entrance for each injection. Of course, the closest attention to asepsis must be given. Not only must the skin and every appliance be surgically clean, but the iodoform solution must be rendered absolutely sterile. With this (or, for that matter, any) treatment the joint must be kept entirely immobile. The improvement derived from the proper use of iodoform emulsion is often truly marvelous.

There is now at the Union depot ticket

office at Bloomington a young man whose wrist joint was so severely disorganized by the tubercular process that the X-ray showed complete softening of the lower ends of the radius and ulna and of all of the carpal bones; the joint was enormously swollen and presented the white, translucent appearance which justifies the name of "white swelling." Five months of complete immobilization of the wrist joint, together with the fingers of the hand, and the injection of iodoform emulsion at regular intervals, have given this young man a wrist and hand as good as its fellow.

Should a mixed infection find entrance to the joint it must be freely opened, the shreds of destroyed capsule cut away and all necrotic foci in the bone removed. Most surgeons then place the stitches without tying them, pack the joint with iodoform gauze and leave it so for 48 hours. The gauze is then removed and the sutures tied. Some, however, close the joint at once. Before puberty a resection of a joint should rarely be undertaken. The destruction of the epiphysis stops the growth of the bone and shortening of the member follows; or, to speak more correctly, it does not grow in company with its fellow of the opposite side. After puberty this restriction does not apply and resection under strict aseptic precautions has yielded brilliant results. But whatever treatment be instituted, these two procedures must be a part thereof to merit success: absolute immobilization of the joint until every vestige of the disease has vanished and a plentiful supply of nourishing food and fresh air.

Pott's disease of the spine is a tubercular disease of the vertebrae, generally characterized by a prominence of the spinous processes of the vertebrae involved. It may occur in any part of the vertebral column and generally has for its exciting cause an injury. The disease destroys the body of the vertebra involved which, softening, is compressed between the bodies of the vertebrae above and below and its spinous process is thrust backward into prominence, making the characteristic deformity. Before the deformity establishes the diagnosis, the child, for the disease is most common in childhood, holds the head

upon the hands or rests it upon the table or desk, if the cervical region is involved, or strives to hold the body by resting his hands upon his knees, or some other support, when standing, if the dorsal or lumbar regions are involved.

After the diseased bodies of the vertebrae have been absorbed the remaining portions may become ankylosed in the deformed position and recovery take place. Or abscesses may form producing a post-pharyngeal, post-oesophageal, psoas, gluteal or ilio-psoas abscess. A post-pharyngeal abscess should be opened at the side of the neck, never in the pharynx. In the first place the sudden freshet of pus may strangle and kill the patient; or, if it does not do so, enough bacilli will likely find their way into the air passages to set up laryngeal or pulmonary tuberculosis. If, in the presence of spinal caries, the thigh shows an inclination to remain flexed upon the pelvis through the contraction of the psoas muscle it is almost certain that a psoas abscess is in process of evolution. Pus may burrow through the layers of the lumbar fascia and produce a lumbar abscess.

Put the diseased part at rest and nourish the patient. Nature undertakes to put the diseased parts at rest, but in a position of deformity. We should overcome the deformity and then maintain the correct position. Various appliances have been devised for this purpose from the plaster of Paris jacket to the elaborate steel apparatus with jury-mast attachment. Each case should be studied by itself and, after the deformity has been overcome by lifting the child by the head and shoulders, maintain it in that position by a carefully studied out appliance which shall give the best support with the least irritation. This treatment should be continued for many months after all soreness or tenderness has passed away. The prospects of recovery are good. Even when the disease has been severe enough to cause a paraplegia, recovery is possible.

The lymphatic glands are especially prone to tubercular infection, particularly those of the cervical region. The air-borne bacillus is beckoned a welcome to the nose and throat by every inhalation and the lymphatic glands

of the neck are often the scene of their first activity. This is the old-fashioned scrofula, which is a term now unused in polite medical society. Occasionally the superficial glands suppurate, discharge through the skin and heal; more often the deep layer is involved and their removal entails a skilful, deep dissection of the tissues of the neck. If all are not removed the progress of the disease is only temporarily arrested and pulmonary and renal tuberculosis are likely to consummate the victory of the bacillus.

Tuberculosis of the peritoneum is met with in three different forms, according to Osler; first, as part and parcel of general military tuberculosis; second, a chronic fibrous form, subacute from the outset, attended by little or no exudation and presenting hard or pigmented nodules; third, a more or less chronic, caseous, and ulcerating form, characterized by the growth of large tuberculous masses, tending to caseate and ulcerate, forming adhesions and communications between adjacent intestinal coils, and accompanied by a serous, sero-purulent or purulent exudation, not infrequently localized or sacculated. It is, of course, of the subacute or chronic variety when the affection comes into the hands of the surgeon, for local treatment cannot be of service in the presence of general, acute, military tuberculosis.

This disease was considered incurable until, purely by accident, it was discovered that after simple exploratory opening of the abdomen a process of improvement began. What is the correct explanation of this result has not been definitely determined. But so frequently has it been observed that the opening of the abdomen and its immediate closure has become an accepted treatment for tubercular peritonitis.

Lupus, or tuberculosis of the skin, was formerly a surgical disease, often difficult of management. It was very prone to recur after the most extensive exsection. But the X-ray has coaxed it away from the knife. Lupus, except in its severest and most advanced forms, is easily and promptly cured by this new therapeutics. The surrounding healthy parts should be protected by sheet lead or tin foil and the X-rays applied for

about ten minutes every second or third day until there is some burning. Then stop the X-ray treatment and heal the burn. This course of intermittent treatment should be pursued until a smooth scar occupies the area of the former tubercular process.

These are the more common tubercular diseases which come under the surgeon's care and are all my twenty minutes will allow me to describe today. If you can keep your patient's digestion good you can cure any case of tuberculosis; if his digestive organs are weak and refuse to be strengthened the prognosis is decidedly bad, however limited the disease may be at the outset of treatment. However skillfully our surgical work may be done, we will fail if we do not keep this fact in mind and act upon it. Many severe tubercular cases which need surgical intervention recover by reason of good stomachs well provided with food and lungs filled with pure air. For pure air is as essential as good food. Fresh, cool air is a wonderful stimulant to appetite and, through its oxygen, aids the process of metabolism.

I would banish drugs except as they may be necessary to improve the digestive power. Creosote, guaiacol and kindred remedies (so-called) are an abomination. They will spoil a healthy man's digestion. Strychnia may be necessary as a stimulant and pepsin, pancreatin and dilute hydrochloric acid as digestive aids. Laxatives for unloading the unused portions of food may be required. But further than these there should be no routine use of medicines. The tuberculous patient should be as much as possible in the open air. Awake or asleep, in cold weather or warm, the windows should allow ample entrance of pure, fresh, cool air, except when the body is exposed for bathing or other purposes. The food should be abundant and nutritious. Tubercular patients rarely enjoy eating. But they must be urged to take large quantities of nitrogenous and fatty foods—not so much at one time, perhaps, but served often and much in the aggregate. Three articles of dietary should be the standards around which all others rally to do battle with "the bacillus," eggs, milk and beef. A half dozen raw eggs, two quarts of rich milk

and at least half a pound of rare beef is as little as an adult tuberculous patient should take daily who expects to recover. Other analogous foods may be substituted temporarily. Too much must not be given at one time, but the intervals between feedings should be short. Should the patient awake at night some panopepton or peptonoids should be at hand and liberally taken.

These patients require fat. Cod liver oil is often prescribed. And it is all right if it can be taken without nausea or disgust. But it has no advantage over cream, good sweet butter or meat fat. Olive oil is equally good and less disgusting. The yolk of the egg is 30 per cent fat, and good fat. So long as there is any elevation of temperature there should be no physical exertion—the patient should remain in bed.

While we study how to help our tuberculous patients by the proper removal of diseased tissues let us not forget that vastly more necessary is the conservation of his power of resistance to disease through suitable hygiene and forced feeding. He who would treat tuberculosis in any form successfully must have for his watchword ever “feed! feed!! feed!!!”

TUBERCULAR NEPHRITIS—REVIEW OF LITERATURE AND RE- PORT OF CASE.*

BY ROBERT J. CHRISTIE, JR., M. D., QUINCY.

Tuberculosis of the kidney has been known as a pathological entity since the beginning of the nineteenth century, Boyle and Rayer recognizing at this time that the kidney might be the special seat of tubercular lesion. There is for this country, as yet, no available statistics for tuberculosis, so it is impossible to state accurately the comparative frequency of renal tuberculosis.

The autopsy records for two New York hospitals, covering 3,187 cases, give renal tuberculosis 67, or a little more than two per

cent. This percentage could not, of course, apply to general mortuary records.

The same authority gives the ratio of bilateral to unilateral involvement, in autopsy cases, as one to one. In earlier cases, that is, cases examined before reaching the last stages of the disease, the ratio is five bilateral against sixteen unilateral, showing that in the bilateral ones one organ is infected secondarily. Or, to state it more clearly, in those far advanced one-half are bilateral while those in the first or second stages about one in six is shown. It must be remembered that these figures are taken from post-mortem records and while they show one in six to be bilateral and, presumably, infected simultaneously, I am aware that the clinical records do not sustain the conclusion.

The figures are useful, however, for one purpose, they show the great liability of early secondary involvement and forcibly illustrate and impress the necessity of early diagnosis and treatment. Women are the subjects in 75 per cent of primary renal tuberculosis.

Neither organ shows a special predilection over its fellow, each being affected equally often.

Two views are held as to the mode of infection; one that the bacilli find lodgment in the kidney tissue by ascending the urinary tract, the other contending that it is impossible for the organisms to travel against the urine current and that therefore the invasion must be either primary or metastatic. I believe that reason and logic and the preponderance of evidence are on the side of the last position.

Post mortem findings and microscopical examinations of specimens of the various stages always show the kidney lesion isolated in the first stage of the disease, thus compelling the conclusion that it is primary or metastatic.

That renal tuberculosis is often, or generally, secondary to tuberculous foci in some remote tissue admits of no question. On the other hand, that the renal lesion is often the primary seat of the disease is equally well established.

Urogenital tuberculosis of the earlier authors is therefore not accepted as descriptive

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

of renal tuberculosis as we understand the term, the conditions they saw and described were the last stages of the disease, seen at post mortem, and were a general distribution of tubercular deposits through the urogenital tract and formed the basis of their conclusion that the projection and distribution was an ascending one.

But that the infection can be an ascending one seems to be proved by the fact that in many cases of bilateral infection the lesion is frequently seen far advanced in one organ and just beginning to invade the other secondarily.

Thus it seems possible that the germs escaping from a breaking down kidney may descend through its ureter and ascend against the urine current of its fellow to the opposite one. This, however, has not been proved, laboratory experiments have failed to demonstrate it and it must remain an open question.

The diagnosis of renal tuberculosis is by no means easy nor simple. In suspected cases the means at command, history, palpation, urinalysis, cystoscopy, cryoscopy, ureter catheterization and tuberculine reaction are available for differentiation and elimination but no one of them nor any number of them can give a positive and unmistakable demonstration of the presence or absence of the lesion in its incipency. What of history; often there is no history for the first period. Of palpation; the same is true. Of urinalysis; there may be a slight diminution in quantity or a polyuria, may have a low sp. gr. and be free from albumen and casts. Not pathognomonic, the same characteristics may occur in a non-tubercular hydronephrosis or a polyuria from any cause. Of cystoscopy; nothing to be relied upon, the congestion or oedema or irritation at the urethral orifice has been found and entirely cured by applications of silver nitrate in many cases that had no connection with renal tuberculosis. Of cryoscopy; the results are not constant and cannot be relied on for diagnosis.

Of ureter catheterization or specimen segregation; may show a diminution of urine from one kidney. This may occur from a variety of causes. May show an entire ab-

sence of flow from one ureter, the same criticism applies. The segregated specimen may show diverse features; it cannot be said that this may not occur in other conditions. Of the tuberculine reaction; suppose you get the reaction, it does not follow that there may not be a focus in some other part of the body. I would not be understood as disparaging this array of diagnostic agents; on the contrary, I am fully aware of the great value of each of them and in cases well advanced but still far inside of the boundary line of operable cases, there is no difficulty offered to establishing a diagnosis.

Some of the misleading vagaries that may occur in a case show conspicuously in one, the history of which I am about to relate.

I would mention these as unusual features: hard, irregular shaped tumor, size of large cocoanut, in abdomen on left side; movable without resistance from diaphragm to pelvis; not painful on pressure, nor per se.

Case: Mrs. W., Rochester, New York, white, came to me to be operated on for tumor of abdomen and gave the following history: Age 46; married; no children; no miscarriages; still menstruating. Family history negative; father died at 80; mother still living at 75; two brothers and one sister, all living and healthy. Had the usual exanthemata of childhood.

Had always had good health since adolescence. In July, 1903, fell from bicycle and sustained compound fracture of left leg. Treatment resulted in nonunion and some months later was operated on for ununited fracture. Recovered with some shortening and left the hospital feeling well except for some nervousness and insomnia. About the latter part of 1903 discovered an enlargement in abdomen. Consulted physicians who gave diverse opinions. When she presented herself to me for examination her appearance was not at all striking.

The general and objective aspect of the person was that of neurosis and anaemia.

Examination: afebrile, pulse 90, respirations 20, heart's action, force and rhythm normal, urine not diminished in quantity, nothing pathological noted in its appearance, no pus, blood or sediment. No microscopical

examination made of either blood or urine. Tumor in left side of abdomen as above noted. Considering the case to be one demanding operation, held the diagnosis sub judice but rather leaning to diagnosis of splenic leucaemia or Banti's disease. Patient was sent to Blessing hospital for operation.

No change in symptoms occurred until the morning of the operation, when on being catheterized a large quantity of bloody, pussy urine, loaded with debris, escaped and the tumor perceptibly diminished in size. This, of course, settled the diagnosis. The remaining history only deserves passing mention. Operation done by abdominal insision through left rectus muscle, tumor easily delivered through incision. There was little difficulty in ligating the peritoneal peduncular investiture.

The true pedicle was ligated en mass and the stump treated with carbolic acid and returned, with gauze drain attached by cat gut ligature. The recovery was prompt and without untoward incident. The wound healed and no fistula remains.

The report of Dr. Rosenthal, Pathologist to Blessing hospital, was most thorough and complete and detailed the pathological features of the specimen.

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Discussion on the Papers of Drs. Guthrie and Christie.

Dr. John Ridlon, of Chicago: Mr. Chairman—With reference to the first paper, the writer is of the opinion that extensive destruction of the acetabulum and of the head and neck of the femur only occurs after mixed infection has resulted. I am sure that is not so. I have seen enlargement of the acetabulum to twice or three times its normal size going on through a period of five years; I have seen complete destruction of the head and neck of the femur going on for a similar period of time, with never any evi-

dence of mixed infection or of tubercular abscess formation, so that I am sure we can count that point out and say it is an error on the part of the essayist to believe that it is necessary to have mixed infection to have destruction of the acetabulum or of the head and neck of the femur in hip-joint disease.

As to the advantages of injections of iodoform mixture into the joint which he spoke of with some hesitancy, I have never had any evidence that was to me conclusive that the injection of iodoform emulsion into a tubercular joint acted in any way to destroy the tubercle bacilli. As a matter of opinion, I believe that the injection of iodoform mixtures into tubercular joints and into abscesses is never of the slightest use and is generally attended with considerable injury.

As to Pott's disease, I have been treating Pott's disease as a specialist for a quarter of a century, and probably half of the cases of Pott's disease have abscesses developed at some period of their course. We read in text-books about abscesses developing in the throat in connection with cervical Pott's disease, as mentioned by the essayist, breaking into the back of the mouth. I wish to say, gentlemen, I have never seen one break there; I have never seen a patient who had an abscess break there in a case of cervical caries. That is one of the delusions that has been handed down from book to book from the earlier times. I don't believe it, because out of the many hundreds of cases I have never seen such cases of Pott's disease.

The recommendations of the essayist in regard to rest, etc., are entirely in accord with my views; but I think he is in error in thinking that it is possible to straighten out the pathological curve of a tubercular spine in any way by suspending, or partially suspending, the patient by the head. The curve can be straightened out. Some curves can be straightened out a little; some can be straightened out a good deal, and others entirely straightened, but not by suspension by the head. If a curve is to be straightened out in a case of caries of the spine, it must be done by bending the patient backwards over some support, so that portion of the body above the point of caries may act as a weight to hyperextend the diseased region.

Dr. John E. Allaben, of Rockford: I want to mention one point in connection with Dr. Guthrie's paper which may be considered a little foreign to the subject, but very important in regard to the invasion of the different tissues of the body by the tubercular process, and that is, tubercular peritonitis in the female, which is a rather common thing, and a very classical paper was written on it by Dr. Murphy some years ago, and an interesting one by Dr. Mayo quite recently. The point of importance is the source of invasion of the peritoneal cavity by the tubercular germ; and Dr. Mayo called attention to the fact, and illustrated it by citing a number of cases, that the invasion is through the Fallopian tubes, and that the Fallopian tube seems to be the organ in which the tubercle bacillus develops very rapidly, and from that the peritoneal cavity is infected. The moral, therefore, in operating and draining serum from tubercular cavities, the

cavity of the peritoneum, is that the tubes in the female should be inspected, and if they show signs of tuberculosis should be removed; otherwise tubercular peritonitis will not be cured, as the peritoneum becomes reinfected from the Fallopian tubes.

I saw a very interesting case yesterday. I was doing a laparotomy for a large cystic ovary, not suspecting tubercular peritonitis at all, but when the peritoneal cavity was opened, I found a considerable quantity of fluid in the cavity. In bringing the tubes and ovaries up for inspection, I found that the peritoneum covering the tubes and broad ligaments was studded over with small tubercles, and nature had attempted to stop the infection by closing the end of the tube so as to prevent the extension of the tubercular process. I resected both ovaries, and believe we will save that patient from having a tubercular peritonitis.

Dr. Geo. N. Kreider, of Springfield: It is singular that Dr. Ridlon in his extensive practice and experience has never seen in a case of cervical caries (tubercular) an abscess in the throat. I saw two such cases about twenty-three years ago. One of the patients was a child, three years of age, with caries of the cervical vertebrae, whom I had in a jury-mast. In putting the child to bed the mother took off the jury-mast, when the abscess ruptured and caused the death of the child by suffocation.

In the other case I opened an abscess in the posterior vault of the pharynx arising from caries of the cervical vertebrae.

Dr. Guthrie's paper is interesting. I think, however, his remarks about the classical cases ought to be modified somewhat by mentioning those cases which occur early in life, and those which occur late in life. The cases that occur in children from seven to fourteen years of age are not difficult ordinarily; but if we take the cases of caries occurring in children of thirteen months old we have a difficult proposition. That child has not learned to adapt itself as patients do later; and if we take cases of tuberculosis of bones occurring in persons who are older, when the bones are consolidated, when the tissue changes come about slowly, we have great difficulty. I have seen two cases within the last twelve months of men, aged nineteen and twenty years respectively. One had gone on five years without a diagnosis having been made, slight anatomical changes occurring in the bone. The symptoms were not at all classical, consequently the diagnosis was difficult. These are cases in which we do not have the classical symptoms, and are difficult to diagnose. I have seen three cases of psoas abscess in boys of over fourteen or fifteen years of age. In these the psoas abscess formed slowly, extending down in the region of the appendix. Two of them were operated for appendicitis, had mixed infection, and death occurred. Another case occurred in my own practice, which I was able to detect and put the patient in a plaster jacket and effected a cure. The classical, ordinary cases of caries of the spine and of the hip joint are not difficult to diagnose; but those in the young, before the children begin to walk, are attended with difficulty in making a correct diagnosis. Such a

case as I saw last week, and those cases that occur after the bones have consolidated, of which I have seen half a dozen cases, are difficult to diagnose, and should be mentioned in a discussion of this subject.

Dr. James M. Neff, of Chicago: **Dr. Guthrie's** paper mentioned one minor point about tuberculosis being absorbed in the early stage. According to my understanding, tuberculosis was never absorbed. Possibly I am wrong, and if so, I want to be corrected. As to the healing of tuberculosis, it is healed entirely by encapsulation and cicatrization, and tubercles can never be absorbed.

Dr. Guthrie spoke about the exceedingly bad prognosis in cases of tuberculosis of the kidney. In many cases of tuberculosis of the kidney that I have seen, and which were operated upon by **Dr. Murphy**, I have come to look upon the prognosis as quite favorable rather than otherwise. When the tubercular process was localized in one kidney, and a good portion of the secreting substance of the kidney was preserved, primary drainage, followed by secondary nephrectomy, saved all of the patients, so far as I can remember. In those cases in which the kidney was destroyed by tuberculosis, primary nephrectomy was done. We know that where a portion of the kidney is secreting, primary drainage, followed by secondary nephrectomy, is the operation of election.

With reference to iodoform emulsion, we have had good results in the treatment of tubercular joints by its use. I have understood that the action of the iodoform emulsion was not antiseptic while destroying the tubercle bacilli, but rather a means of increasing the local resistance—in other words, causing a deposit of cicatricial tissue around the tubercular focus and limiting its extension rather than acting as an antiseptic.

With reference to the early diagnosis of tuberculosis, spoken of by **Dr. Kreider**, we have had many cases come to the office that had been treated for stomach trouble, neuralgias, etc., but in whom a careful examination has proved the existence of beginning tuberculosis. The most reliable symptom of early tuberculosis of the spine we have found to be muscular rigidity of a localized portion of the spine when the patient steps forward to pick up something from the floor, this localized rigidity involving one or two vertebrae above and below.

With regard to **Dr. Christie's** paper, in speaking of the diagnosis of tuberculosis of the kidney, it seems to me it is not so much the manifestation or presence of one or two symptoms as it is the complexus of symptoms which would lead one to a correct diagnosis. Finding a little pus in the urine, with a palpable kidney, and on catheterization or segregation finding that the pus comes from the enlarged kidney, with fixation of the renal tumor, etc., would lead to a correct diagnosis in the majority of cases.

Dr. Guthrie (closing the discussion on his part): Necessarily in a paper covering so much ground as mine undertook, I could not go extensively into details, and considerable of what has been already written was culled, which may have explained some of the things with which

Dr. Ridlon took issue. I did not mean to say that destruction of a joint may not occur without mixed infection, nor did I say so in my paper. Of course, the gravity is enormously increased when mixed infection ensues.

From my small experience with iodoform emulsions, I must say that it has led me to an entirely different opinion as to its usefulness than that expressed by Dr. Ridlon. I have seen some bad joints improve markedly and eventually recover with the use of iodoform emulsion.

The object of my paper was to lay particular stress upon the value of feeding and supporting the patient. As surgeons, too frequently we cease our efforts when surgical work is done. That is the smallest part of it, it seems to me. In tuberculosis of any kind there is a reduction of vital resistance, and our first duty should be to improve the patient's resistance to disease.

I want to speak particularly of a case that has been under my observation. It is a case of old, recurrent hip joint disease, associated with nephritis and tubercular ulcer of the bladder. The patient was seen by Dr. Billings, Dr. Bevan, and Dr. Clarence Webster, who all agreed that the disease was so far advanced and so widely distributed that it was not worth while to try operating. The patient, a young woman of eighteen, was put to bed and persistently fed—stuffed, so to speak. Extension was put on the hip, and a large quantity of eggs, milk and beef was taken. The quantity was something enormous. For four months this young woman has been free from any tubercle bacilli in the urine; the hip joint is apparently healed; she is now a big, fat, healthy-looking girl, and so far as any appearances go, and any tests I have been able to make, she is entirely cured of what was supposed to be an inoperable condition.

Dr. Christie (closing the discussion): The point I aimed to emphasize was that in the very beginning of renal tuberculosis the various tests or aids to diagnosis were difficult of application. The ordinary urinalysis, as made in the general examination of patients, would never in the incipency of renal tuberculosis excite suspicion of that disease. If anything is to be hoped for from non-surgical treatment, these cases must be apprehended at an early time. We must see them the first day, the first week, or in the first stage of the disease.

The Doctor's comment upon his experience regarding nephrotomy previous to nephrectomy calls to my mind that in reviewing this subject somewhat critically, I found that a surgeon recently has collected statistics of four hundred cases of operative renal tuberculosis, and while he does not mention nephrotomy as a last resort in these cases, still he gives it as second in point of value, away below nephrectomy. He cites the morality of these cases.

In reference to the susceptibility and power of resistance against tuberculosis, I would like to mention a case that came under my observation a few years ago. A woman had what was diagnosed as acute millary tuberculosis, from which she recovered. She had tubercular adenitis of the cervical region and of the axilla, and extirpation of these tubercular foci apparently cured her. Her next attack was one of tuber-

cular peritonitis, the disease beginning in the adnexa. She was relieved of this apparently by non-surgical treatment, although surgery was considered as a last resort. She finally succumbed to a very acute tuberculosis of the lung.

PROPHYLAXIS OF SYPHILIS.*

BY ALFRED SCHALEK, M. D., CHICAGO.

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Reasons for renewed activity during recent times. Proposed means of prophylaxis of syphilis divided into two classes. The first applies to social hygiene; includes control and regulation of prostitution; report of cases of syphilis coming under professional care; education of the community as to the consequences; establishment of better facilities for treatment and special hospitals. Value of the different measures. Prophylaxis through the individual the physician's proper sphere. Prevention of infection. Abortive treatment. Importance of curing the disease and thus preventing its spreading. Instruction to patients how to avoid endangering the public. Syphilis in relation to marriage.

In placing this paper before the profession, I am well aware that I do not present any new facts. From time immemorial so many individuals and societies have, with very little success, directed their energies toward the amelioration of this most insidious problem of social hygiene, that any new attempt would naturally be discouraging. Notwithstanding this fact, much attention has recently been paid to this subject in this country, especially at the 55th session of the American Medical Association. What, then, might be asked, is the reason of this renewed activity? Not because syphilis has increased menacingly, nor because it has become more serious in its course, for the graver forms are today rarely seen; the so-called epidemics are things of the past, except in some out of the way places of the world, into which civilization with all its accompaniments is just beginning to penetrate. It is doubtless because the more reliable statistics of the present times bring the far reaching extent and the terrible consequences of this scourge more emphatically to our attention; our increasing knowledge of therapeutics of other infectious diseases, our improved means of prophylaxis

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

and sanitation, give us new hope of achieving similar results in the prevention of venereal disease. Last but not least, conscience urges us on, and stimulates our activity, to prevent the wrong which is being done to thousands of innocent persons. That great results are not accomplished as yet is due primarily to the almost insurmountable difficulties with which this movement has to contend. Society, for moral reasons, opposes efforts to deal with this matter. It is the duty of the medical profession to overcome this false sentiment; the public must recognize the fact that syphilis is very often not a self-inflicted disease, due to depravity; they must be enlightened about its grave consequences; must discuss, openly and freely, means and ways, to suppress it. The immense extent of syphilis among the innocent should put it on the same level as tuberculosis, in its importance to the public health.

Syphilis can be attacked in two ways: in its relation to society, and privately through the individual. Statistics show that syphilis is found distributed most widely in places with a large population, therefore mainly in large cities. The reason is obvious: here prostitution flourishes and the constant and intimate contact of people facilitates the rapid spread of contagion. The suppression of prostitution would reduce syphilis speedily to a minimum. But to attain this end is evidently an utopian dream, as prostitution will exist as long as human beings continue to possess a strong sexual instinct. Prostitution means syphilis! It is only a question of time when every prostitute becomes syphilitic. It must be regarded as an accident if the man who associates with them escapes infection, and a very rare one, at that. The only reasonable way to treat with this "social evil" would seem therefore to be its surveillance and control. The cry which is raised, that in this way we legalize vice, that by subjecting the unfortunate to a forced examination, segregation, and treatment, we violate the principles of personal liberty, we may overlook. We feel reluctant to give, even apparently, an official approval to any vice; we are proud of our progressive ideas, but we have not the right to sacrifice thousands to a

few. We isolate the victims of small pox, and they are certainly more entitled to our sympathy than those, who usually expose themselves knowingly and of their own free will. It is not for moral reasons, therefore, that we should object to adopt such means of prophylaxis, but because of the reports that abroad, where, with the exception of a few countries, official control is exercised, the evil is by no means abated in this way. Experience has proven that surveillance is useless if it is limited to women and overlooks the men who are guilty of spreading the disease, and furthermore, that it encourages the clandestine pursuit of the nefarious trade, and thus lessens our ability to guard against it.

Another means of a general prophylactic nature has been suggested, namely, to create laws which would make it compulsory for physicians to report all cases of syphilis coming under their care. This, it is argued, would make it possible to enforce treatment and minimize the danger of propagation. It needs few words only to show the impracticability of this proposition. The medical profession can never consent to any scheme that would necessitate the violation of professional secrecy; the victim of infection would under such circumstances either be deterred from seeking his only salvation in competent help or else be driven into the hands of the quack. There seems very little reason to hope that these methods of prophylaxis can be of any service. A much better and more available method is suggested in Morrow's (1) plea for a more extended education of the community. Instruction should be given to the maturer youth, and should comprise the knowledge of anatomy and physiology of the sexual organs; the observation of hygienic laws; warnings against the dangers of acquiring venereal diseases and information as to their consequences. The same policy should be pursued in public lectures; large assemblies of men, as in factories, lodging houses, the police and fire departments and others should be addressed repeatedly on this subject. Many cases of accidental extragenital infections are due to negligence or ignorance of the public, and could be prevented through explicit explanations and in-

structions by the profession. A disease which is so treacherous as syphilis, and capable of entering the purest families, should be thoroughly understood and freely discussed, without false shame, so that effective measures can be taken for its suppression. It should be known that it is necessary for the introduction of syphilis to find a point of entrance, even though it may be so small as to be overlooked. This loss of continuity in the epidermis, which may be an abrasion, a fissure, or some dermatosis, must come in contact with a physiological, or pathological fluid, containing the virus, in order to become inoculated. The extragenital parts most frequently so affected are the lips, the tongue and the tonsils. Such accidents could often be avoided by observing the simplest hygienic precautions. Indiscriminate kissing ought to be eschewed; parents especially should teach their children to shun promiscuous osculations from adults. The use of public drinking utensils should be abolished. MacDonald (2) reports a case of an usher in a theater, whose mouth was full of mucous patches, passing around the glasses with water and occasionally sipping from them. The best policy is to abstain entirely from drinking out of glasses with broken edges. The same author also cites a case of infection by a piece of chewing gum. Barber shops and their tools should be put under municipal regulation and subjected to scrupulous cleanliness. Infections through vaccination, formerly not uncommon, are rare nowadays since the use of humanized virus has been abolished; inoculations through carelessness by physicians, obstetricians and midwives should not occur in this era of antisepsis and are unpardonable. Another point in connection with general prophylactic measures to be mentioned are the hospitals and dispensaries. Our hospital facilities for the care of syphilitics are entirely inadequate. There are very few, at present, which accept syphilitic cases in their free wards. The establishment of special wards would go far toward securing a thorough treatment for some who could not get it otherwise. Plenty of dispensaries will enable indigent patients to find relief and thus es-

cape the quack and the dispensing druggist; they reach the masses and effect a checking of the disease through treatment and by imbuing them with the seriousness and danger of their trouble. For such persons, however, who, for whatever reason, can not pursue ambulatory treatment, or who on account of some especially contagious manifestations are a public menace, special provisions should be arranged in hospitals. Rules should be put in force in all public institutions, such as almshouses, prisons or hospitals, to examine everybody thoroughly on admission, and treat existing syphilis, even where necessary, by force.

While with all these means we can do a great deal to minimize the dangers of syphilis in a general way, still the individual prophylaxis is the sphere in which the physician must achieve the largest results. The measures taken should comprise ways and means to protect the individual himself, and to safeguard society.

It is a delicate matter to mention the question how to avoid infection in sexual exposure. Since this happens mostly through illicit intercourse, we wish that we could simply quote Osler: "Personal purity is the best prophylaxis." But only hypocrisy or an exalted confidence in a general human morality can believe in the effectiveness of such advice. Every physician is at times approached with such questions. It is not the lewd person which we have to look out for, but the innocent who are bound to suffer later through him. Are we then justified in hiding behind our moral rectitude, and depriving him of the best advice which we can give? But while we approve of giving such information, as we are able to give, we do not intend to go here into particulars as to the different resources; they can easily be found in contemporary works (6). It should be added, though, that the safety which they aim at is problematical, to say the least. One point must be emphasized: the duty of the physician, to whose notice come skin-eruptions of the genital parts, like herpes progonitalis, balanitis, eczema and others, to point out the dangers of an exposure in such conditions.

Therapeutics which would abort syphilis, when once established, would be an ideal accomplishment; but at present we have no such knowledge. Early excision of the primary lesion, systemic specific treatment, before constitutional symptoms prove the generalization of the infection, have been tried without success. Until a discovery, analogous to Behring's, enables us to abort lues with a timely serum therapy, our aspiration is limited to the endeavor to eradicate the disease by thorough treatment. In this we need the conscious support of the patient. Morrow says: "To have syphilis is a misfortune, but to transmit it is a crime." No less a crime is it, in our opinion, to miss any chance to get rid of this plague, and to prolong the risk to the public.

The importance of exhaustive treatment is based on our belief that syphilis is curable. An absolute proof for this can not be given, the conviction is justified, however, if after energetic treatment, persevered in for several years, the patient enjoys permanent good health, does not communicate the disease to his married partner, and begets healthy children. Grave and prolonged cases are almost always due to insufficient treatment. Fournier (3) showed that of 1703 cases of tertiary syphilis, 53 were treated two years only, 265 less than that, 1162 less than one year, and 217 not at all. Jadasson (4) gives similar statistics. How long the treatment should be continued is a question concerning which opinions differ widely, but two years must be regarded the minimum in the mildest cases. The patients must be impressed with the importance of keeping up the treatment, even if the absence of any more signs, an event which is bound to occur temporarily, feigns a cure. No treatment should be instituted until the diagnosis is made positively, that is, when typical manifestations appear. Frequently a diagnosis is made erroneously from an apparently typical primary lesion and a few enlarged glands. A short delay will prevent injury to the patient, by subjecting him to a long and by no means indifferent treatment in the absence of syphilis, and also obviate a false security, if characteristic symptoms should be postponed indefinitely

through it. The physician will be better supported by the patient if his word is based on visible facts instead of theoretical explanations. The objection made, that valuable time is lost in this way, is not supported by our experience. We see that too early treatment is often less effective and sometimes even followed by serious consequences. The patient should be warned that during this whole time he is a danger to society; it should be explained to him the great misfortune he is liable to inflict on others and especially on those nearest and dearest to him.

Our prophylactic measures must further extend to the marital relations of the afflicted, to prevent harm to his future partner in wedlock and his future children. According to Bulkley (5) 85 per cent of syphilis in married women is acquired innocently; the mortality of children due to hereditary syphilis is on an average 60 per cent. Prophylaxis finds here a fruitful field. Most authorities agree that marriage may be permitted conditionally; the rules generally observed are entirely empirical. Perseverance in the treatment for at least two years, and indefinitely longer if needed, and absolute freedom from any manifestations whatever, during the two years succeeding treatment, must be insisted upon. This time limit is arbitrary, but according to our experience, the nearest to safety. Max Joseph (6) says that, after careful observation of all therapeutic methods, he never saw syphilis transmitted by his patients whom he had permitted to marry. Even after all these precautions the patient can not be given a positive assurance that he will be permanently free from the disease; but we may point out the established fact that in the great majority no further evidences appear; that the few exceptions are late manifestations, usually gummata, which, according to our present knowledge, involve no danger to the wife and the children.

Our duties of prophylaxis do not stop when marriage has been contracted against or without our consent. Our energies must now be directed toward improvement of any unhappy consequences, that is, consecutive abortions, miscarriages, and births of chil-

dren with syphilitic taint. Both parents must be impressed with their responsibility; vigorous treatment must be instituted at once and persisted in. The next child may already prove the benefit of this timely action. (7).

Prophylaxis of syphilis is by no means exhausted by the preceding remarks; while nothing new has been added to the means in our possession, it was the aim of the author to point out to the practitioner the wide scope of usefulness in his own field, a matter too often neglected or belittled, to the detriment of the sufferer.

(1) Prince A. Morrow, *Journ. Am. Med. Assoc.*, March, 1905.

(2) Wm. J. McDonald, *Boston Med. & Surg. Journ.*, January, 1905.

(3) Fournier, *La Semaine Med.*, 1893.

(4) Jadasson, *Verh. Deutsch. Derm. Ges.*, 5 Congress.

(5) L. Duncan Bulkley, *Journ. Am. Med. Assoc.*, March, 1905.

(6) Max Joseph, *Proph. Haut. & Geschl. Krankh.*, Muenchen, 1900.

(7) A. Schalek, *Theor. of Transm. of Hered. Syph.*, *Journ. Amer. Med. Ass.*, May, 1903.

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PATHOLOGICAL ANATOMY OF LACERATIONS OF THE OB- STETRICAL CANAL RE- SULTING FROM OB- STETRICAL IN- JURIES.*

BY J. CLARENCE WEBSTER, M. D., CHICAGO.

As labor progresses differentiation of the uterine wall above the level of the cervix gradually takes place, characterized by a thinning of the lower portion. In the first stage there is usually only a gradual transition from one to the other, but after the escape of the liquor amnii, there develops a well-marked line of demarcation, known as the retraction or contraction ring or ridge, formed by the lower edge of the upper segment. The ring varies in thickness, con-

tour and position in different cases. In the frozen cadaver of a normal primipara who poisoned herself in the advanced second stage (the head being at the perineum) described by Barbour and myself, the distance of the ring from the os externum, measured anteriorly, $2\frac{1}{2}$ in., and posteriorly, $3\frac{1}{4}$ in. The average thickness of the lower uterine segment measured 1-10 in., and that of the upper segment $\frac{1}{2}$ in. in the non-placental area, and $\frac{1}{4}$ in. in the placental area.

The cervix also becomes greatly altered as labor progresses, canalization taking place from above downwards. Frozen sections demonstrate that its wall is unequally thinned, the posterior lip being usually elongated more rapidly than the anterior. In the most marked stage of dilation the cervical canal has a diameter of four or more inches. Its wall has about the same thickness as the lower uterine segment, from which it cannot be distinguished by the naked eye as the site of the internal os is entirely obliterated. Anatomic study shows that normally the vertical measurement of the cervix is not lengthened more than half an inch. Neither the lower uterine segment or cervix, though greatly stretched in labor, loses the power of retraction, for the thinned wall becomes thickened in correspondence with areas of depression on the fetus.

The softened wall of the vagina becomes stretched from above downward in labor, the change beginning when the bag of waters bulges downward during dilation of the cervix. After rupture of the membranes, the presenting part of the fetus acts directly on the vaginal wall. In the advanced second stage the lower diameter becomes four inches or more. The posterior wall becomes greatly elongated vertically; thus in Barbour and Webster's specimen to which reference has been made, its length from the os externum to the vulva measured 7 inches, the thickness of the wall measuring not more than 1-32 in. The anterior wall is not so elongated, measuring in the same specimen about 2 in.

As the fetus descends into the pelvic cavity the paracervical and paravaginal tissues become greatly stretched and compressed against the pelvic wall. In the advanced second stage the sacral segment of the pelvic floor is pushed downward, and backward, the anus and perineal body being forced down-

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

ward and forward as the head advances towards the outlet.

Rupture of the Uterus.—Rupture of the uterus as the result of trauma in labor almost always begins in the lower uterine segment. This portion is to a great extent inactive and if labor be obstructed, as, for instance, in the case of a transverse presentation, the continuance of activity in the upper segment leads to a thickening and elevation of the latter with consequent stretching and thinning of the lower uterine segment. It may, therefore, be readily lacerated, especially on the side subjected to the greatest stretching; thus, in transverse presentations, this is most apt to occur on the side occupied by the fetal head. In other cases the tear may begin in the posterior wall where the bony head presses the thinned uterine segment against the sacral promontory. Sometimes the site of rupture may be determined by the forceps.

Complete ruptures are those in which the entire thickness of the wall is torn so that a communication is established between the uterine and peritoneal cavities; incomplete ruptures being those in which the peritoneum is not torn. The former are most common. The rupture varies in shape, size and direction. It may be a mere perforation or may be large enough to permit the passage of the fetus. Small, rounded openings are usually caused by pressure necrosis, and they may be situated in front, opposite the pubes, behind, opposite the promontory, or in any region in relation to an exostosis or bony spine. Lacerations are usually elongated slits, vertical, transverse, oblique, irregular, straight, curved, T-shaped, L-shaped, stellate; etc. Sometimes they may be circular, almost the entire lower segment being divided.

Rarely, there may be more than one area of rupture. One portion of a rupture may be complete while the rest may be incomplete. In some cases the rent may extend upward into the upper uterine segment or downward into the cervix and vagina. Occasionally the bladder is involved, rarely the rectum. The edge of the ruptured wall is usually rough and irregular, contused and infiltrated with blood. The latter may extend some distance into the wall, especially under the peritoneum, which is usually loosened around the rent and more or less separated.

When the rupture is large, the fetus usually escapes partly or entirely into the peritoneum. In the latter event, the placenta may remain in the uterus or also pass in part or entirely into the peritoneal cavity. The uterus may remain relaxed or may become markedly retracted and contracted. Blood escapes among the intestines along with liquor amnii. Intestines may also enter the uterine cavity through the rupture and descend into the vagina.

Incomplete uterine ruptures vary also considerably. Very frequently they occur opposite a broad ligament. The unruptured peritoneum may be bulged outward by blood-clot, which may form a large swelling and extend widely. The fetus may remain entirely within the genital tract or may partly extend through the rupture and bulge the peritoneum; rarely the placenta may escape through the rent. Sometimes, secondary rupture of the peritoneum may occur in such cases, especially after marked extraperitoneal accumulation of blood.

Primary rupture of the upper uterine segment in labor is rare. It may affect the peritoneum alone or with part of the musculature, or may involve the entire thickness of the wall. It is found in cases of local weakness, e. g., cicatrix from a previous Cæsarian section or myomectomy.

Cervical Lacerations.—Slight lacerations of the vaginal portion of the cervix occur in almost all first labors and in many others. Usually they heal rapidly causing but slight irregularities in the outline of the cervix.

In many instances, the lacerations are deeper, involving the entire thickness of the vaginal portion. Sometimes they may extend high up into the supravaginal portion of the cervix or even into the lower part of the body of the uterus. The vaginal vault or the broad ligament may also be implicated; sometimes, the bladder.

Cervical laceration is most frequently left-sided (to be associated with the frequent left position of the occiput). It may also be found on the right side or in other positions. Sometimes, more than one laceration may be produced by a labor.

In rare instances circular tearing may take place and the lower portion of the cervix may be entirely detached. According to Boudreau this is chiefly found in old primiparæ when there are strong uterine contractions and

when labor is much obstructed by rigidity of the lower part of the cervix.

In some cases the anterior lip of the cervix may be partially divided as the result of necrosis due to compression between the fetal head and the pubes.

Vaginal Lacerations.—Though the vaginal wall is greatly stretched and thinned in labor it is rarely torn except at the perineum, owing to the elastic support given by the tissues packed between it and the bony pelvic wall. Next in frequency to the perineal portion the upper end is most likely to be torn, being in a considerable percentage of cases a continuation of a cervical laceration. The rent varies considerably as regards size, shape and direction. It may involve only the vaginal wall or may extend into the paravaginal tissues, sometimes reaching the bony pelvis. Sometimes, the bladder, rectum, urethra, ureter or peritoneum may be involved. Sometimes, a circular laceration may separate the cervix partly or entirely from the vagina. Isolated lacerations of the vagina not continuous with those of the cervix or perineum are very uncommon. Their direction is usually more or less vertical.

Of great importance in the study of the lesions associated with the distension of the vagina in labor is the stretching of the visceral layers of the pelvic fascia, viz., the vesico-vaginal, recto-vaginal and anal, and the separation of the lateral halves of the levator ani muscle. In many cases retraction occurs only imperfectly after labor, so that the function of these tissues as a supporting framework is more or less affected. The impairment is increased, if in addition there is much laceration of fibers of fascia or muscle.

Perineal Lacerations.—The significance of these lesions is widely misunderstood, because their anatomical basis is not kept in mind. The perineal body should not be considered as a distinct entity. It is merely the anterior part of the sacral segment of the pelvic floor and is of composite nature, its most important constituents being fascial and muscular structures. Of the former should be noted the anterior and posterior layers of the triangular ligament, recto-vaginal visceral layer, anal fascia and deep superficial fascia. The chief muscular structures are small offshoots of the levator ani, the sphincter vaginæ, sphincter ani, trans-

versus perinei and transversus perinei profundus.

These structures lie between the skin and vaginal surfaces. The importance of perineal laceration depends upon the extent to which these structures are stretched or divided. In almost all first labors the fourchette at least is torn. Frequently, as well, the lower part of the vaginal mucosa is involved. This may be mesial, but more often extends up one or both vaginal sulci, and may be higher on one side than the other. A bilateral tear leads to the separation of the posterior vaginal mucosa in a tongue-shaped portion. These lacerations may extend into the muscular and fascial structures, a considerable range of variations being found. In the worst cases the anterior wall of the anus may be involved. Rarely, central rupture of the perineum between the vagina and anus may occur spontaneously or as the result of delivery with instruments.

Frequently the skin or vaginal mucosa may not be much torn, though the important intervening structures may be so torn as to cause great weakness afterward.

Vulvar Lacerations.—Not infrequently in first labors, slight tears occur in the anterior vulvar region e. g., the vestibular mucosa. They may also extend to the clitoris or urethra. The labia minora and majora may also be lacerated in labor, chiefly in instrumental deliveries. In some of these cases there may be extensive hemorrhage.

POISONING FROM OIL OF WINTER-GREEN.*

BY F. C. VANDERVOORT, BLOOMINGTON.

As the woman in the parable called in her neighbors to rejoice with her over her recovered lost coin, so I take advantage of this opportunity to share with you what, to me, is something new and well worth knowing. Possibly it was my ignorance that kept from my knowledge so many years the fact that the oil of wintergreen is poisonous even to a dangerous degree, but the text-books that I had been most familiar with made very slight mention of the dangerous results that might occur from a too free use of this very

*Read at the 35th Annual Meeting, Rock Island, May 17, 1905.

common drug. Since the advent of salicylic acid as an anti-rheumatic, and the preference has been accorded to the product from the oil of wintergreen, the oil itself has been much used for rheumatism. The case I will relate was that of a man suffering from sub-acute rheumatism of a not very severe type, having tired of doctors' prescriptions, commenced taking, upon the advice of some lay friend, the oil of wintergreen. He carried his bottle in his pocket and took it from the bottle without measuring with spoon, and probably took more than a drachm at a dose.

I was called to his room hurriedly and found him in bed, blanched and suffering from tremor of the whole body and a feeling of impending death. His pulse was irregular and tripping it at 120 per minute. I at once questioned him as to what he had been taking, when I learned the above history. I immediately gave him a hypodermic injection of strychnia, 1-30 gr., and waited until it showed good effect upon the pulse. I left him strychn. 1-60 to take every three hours, and orders to remain in bed. He was able to be out the next day, but felt shaky, as he expressed it. He further asseverated he would rather have rheumatism than take any more of the wintergreen.

In looking over many works on *materia medica* I find very little said about the poisonous properties of *ol. gaultheria*. Hare says the oil contains 90% of methyl salicylate and that the physiological action is almost identical with that of salicylic acid, and we all recognize the dangers of the latter drug. This brings the conclusion that salicylic acid made from the oil of wintergreen may not be entirely free from dangers. Hare also says that *ol. gaultheria* is often used in rheumatics instead of the salicylate, and the dose may be as high as 100 drops a day, but that very few people can take more than 30 drops per diem. The real dangers come from the fact that few people know it is a poisonous drug, and the laity are liable to use it as freely as they do quinine. The flavor of it is familiar to all because it is used universally as a flavoring for candies, syrups, etc.

'This may all seem puerile to you gentlemen of the State Medical Society, but though

a little thing, I long ago came to the conclusion that life itself is made up of little things, and in the practice of medicine, if we look out constantly for the little things, the big ones will not give us much trouble. I felt much hesitancy about reporting this case because of a fear that it would be considered of too small consequence for a state meeting. We all of us too often feel this way, and shrink from reporting our cases. One redeeming feature I felt was sure of commendation, and that was brevity. I will not further draw out the meager details of this case, but close by saying I believe it is well for every physician to report every case of peculiar or unusual interest.

THE LICENSE AND CONTROL OF THE PRACTICE OF MEDICINE IN ILLINOIS.*

BY GEORGE W. WEBSTER, M. D., CHICAGO.

Prior to the foundation of medical colleges in North America, it was customary for young men, desirous of learning "Physic," to go abroad and study in continental schools or to London and Edinburg, providing they had the means and the inclination to do so. Those too poor to do this, apprenticed themselves to some practitioner of repute for a term of years, at the expiration of which they began the practice of medicine on their own account. Many others did not even comply with this formality, and, as a result, many poorly educated physicians and charlatans and impostors arose to feed upon the laity. For example, at the beginning of the war for independence, there were 3,500 practitioners of medicine in the colonies, of whom only 400 had received medical degrees. This condition grew out of the fact that there were practically no laws governing or regulating the practice of medicine in the colonies. So much for the question before independence was achieved. Bear with me for a few minutes while I speak of the source of all public health powers and general "police powers" of the state.

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

In dealing with this question it becomes necessary to call attention to a few fundamental principles and definitions that apply to all forms of government. Obviously in all forms of government power must be lodged somewhere, and, on the seat of its lodgment, depends the form of government. In a pure democracy all power resides in the people; in an absolute monarchy, it resides in a ruler or king. Without consuming time to deal with modification of these two generic forms of government, it may be said that in any form of government, the exercise of a power not derived in accordance with the principle just stated, is illegitimate and therefore revolutionary and dangerous. It follows, therefore, that a public health power, in order to be legal, must be logically and legitimately derived from the source of power existing in form of government of which it is a function.

All concede that after the independence of the states was achieved and before the formation of the Union was accomplished, all governmental powers of all kinds, including, of course, public health powers, must have resided in the state or in the people thereof.

By the adoption of the federal constitution, a national government was created and to it certain powers were delegated, the powers delegated being specifically enumerated. Unless it could be pointed out in the constitution that public health powers were surrendered to the national government, they must remain in the states where they originally belonged. It may be safely asserted that no clause in the constitution can be pointed out that transfers public health powers from the states to the nation, hence the conclusion is irresistible that they still belong to the states. The supreme court of the United States has affirmed that while power to regulate interstate commerce does belong to the national government, power to regulate public health does not so belong, the two powers being entirely separate and distinct. The tenth amendment to the constitution, adopted soon after the ratification of the states, reads as follows: "The powers not delegated to the United States by the constitution and not

prohibited by it to the states, are reserved to the states or to the people." In the face of these plain, strong words, and by applying the above law, we are able to formulate the definite and incontrovertible proposition, namely, that all powers not specifically or impliedly conferred on the national government are reserved to the states; this includes public health powers. All public health powers are a part of the "police power" of the state, and Chief Justice Shaw defines "police power" as "the power vested in the legislature by the constitution, to make, ordain and establish all manner of wholesome and reasonable laws, statutes and ordinances, either with penalties or without, not repugnant to the constitution, as they shall judge to be for the good and welfare of the commonwealth, and of the subjects of the same." Ex-Governor Hamilton says: "The police powers of the state are plenary and inalienable, co-extensive with the natural right of self-protection, their exercise is demanded by the 'law of overruling necessity,' they are the foundation of all laws and regulations for the well being or government of the people, and especially all laws, ordinances, rules and regulations for the preservation of the health and safety of the community. Leaving out of consideration municipal affairs, all governmental powers which have not been committed to the federal government, through the medium of the constitution of the United States, are exercised by the state government." It must be evident from the foregoing that the regulation of state medicine is one of the inherent rights of the state in which the right of the state is derived from the duty of the state. State medicine may be defined as "the connection of the state with that branch of science which relates to the prevention, alleviation or cure of the diseases of the human body. It is the application by the state of medical knowledge to the common weal and embraces every subject for the comprehension of which medical knowledge, and for the execution of which the legislative and executive authority of the government, are indispensable." "State medicine is charged with the protection of the health of the people

from dangers which are beyond control of private effort, and its just functions are derived from *necessity*, and the *necessity* constitutes their limit." In their exercise every unnecessary invasion of private right, every unnecessary interference with the perfect freedom of personal action, is a usurpation of power and an unjustifiable trespass upon the liberty of the citizen.

The work of state medicine relates primarily and directly to three principle subjects. These are: medical education, sanitation and quarantine. That the states recognized their right and duty to legislate concerning state medicine and the regulation of the practice of medicine is shown by the early laws enacted in regard to them. The first law enacted in the colonies having for its object the regulation of the practice of midwifery, was in New York in 1716; the first law regulating the practice of medicine and surgery was enacted by the General Assembly in New York in 1760; then came the incorporation of the Medical Society of New Jersey, said society being authorized to appoint censors to examine and license candidates to practice medicine in the state. In 1799 the Medical Chirurgical Faculty of the State of Maryland was incorporated and empowered to elect by ballot 12 persons who were to be styled "The Medical Board of Examiners of the State of Maryland." Six of the original thirteen states recognized their constitutional right and duty to legislate on the subject of medical education and practice during the first twenty years after the achievement of independence. Gradually other state legislatures passed laws in regard to the organization of medical societies, but they did very little to regulate the education and licensing of physicians, and they granted charters for the new medical colleges as often as they were asked to do so by ambitious or even unscrupulous members of the medical profession. Each college regulated its own affairs, prescribed its course of study, the length of the course and the size of the fees, and the degree of M. D. was almost everywhere accepted as authority to practice without examination; consequently, the college which offered to confer the degree for the least money and in

the shortest space of time had the largest classes. The number of colleges had increased from 4 to 40 before the middle of the century and the course had been shortened to consist of one year of study with a preceptor and two courses of lectures of sixteen weeks each, the second course being a repetition of the first. It was about this time, namely, February, 1844, that the late Dr. N. S. Davis, introduced his famous resolutions in the New York State Medical Society, declaring in favor of the adoption of, first, "a fair standard of preliminary education;" second, "the lengthening of the course to at least six months;" third, "the grading of the courses of instruction;" and, fourth, "having all examinations for license to practice medicine conducted by state boards, independent of the colleges." Comparatively little was done, however, and we find that in 1867 at a convention of most of the medical colleges in the United States, held in Cincinnati, that the following was recommended:

First, "the preliminary entrance requirement of a high school education."

Second, "three years of college of at least six months each, graded instruction, one year of hospital clinics."

At that time there was only one college in the United States, the Chicago Medical College, now the medical department of Northwestern University, that was carrying out this schedule honestly. Harvard adopted this schedule in 1872, including the graded course of instruction, and the University of Pennsylvania followed soon after. In 1877 an act was passed in Illinois creating the Illinois State Board of Health. The conditions obtaining in this state at that time were indeed deplorable. Every forest has its shrubs and parasites and every field of wheat has its weeds, and Illinois was no exception to this general rule. There were at that time 3,800 non-graduate physicians practicing medicine in the state of Illinois.

The State Board of Health was given rather large powers, both legislative, executive and sanitary. It was given control of all sanitary matters and all matters relating to the general health and welfare of the people of the state, and also the licensing and

control of the practice of medicine within the state, and unlike most other states in the Union, it has continued to perform its double function of a health board and an examining and licensing board up to the present time.

Speaking of the work of this Board up to 1893, Dr. J. Collis Warren, Professor of Surgery in the Harvard University, said in an address at the Pan-American Medical Congress, Washington, D. C.: "The reports on medical education, by the Illinois State Board of Health, I do not hesitate to say, have exerted a more powerful influence on the movement in education than any other publication which our medical literature has produced." While it must be admitted that other agencies, notably the efforts of Dr. Davis already alluded to, and of the American Medical Association, exerted continuously since 1844, have materially contributed to the gratifying advance in the standard of medical education in this country, and it is fair to say that I believe that Dr. Warren's generous recognition of the value of the service rendered by the Illinois State Board of Health, through its efficient secretary, Dr. John H. Rauch, is fairly justified by the facts. When our first law of 1877 was passed, indeed when the first report of the Board upon medical education was issued in 1880, it showed that there were 57 medical colleges in the United States, only 15 of which exacted any matriculation or entrance requirement whatever, and in only 15 schools was the lecture course graded. The average length of each of the two required annual courses or terms was 16 to 20 weeks. Fortunately, the act of 1877 creating the Illinois State Board of Health clothed it with discretionary powers to determine what should constitute a medical college in "good standing" with the Board, said recognition entitling the holder of a diploma from such an institution to licensure in the state without examination. It was this fact that the Board was clothed with this discretionary power which early led it to investigate conditions and then to formulate rules with which it was necessary for the colleges everywhere to comply, in order to be considered in "good standing" with the Board, and to have

its graduates eligible to licensure in the state. The Board framed a schedule of minimum requirements, prescribing the character of the entrance requirements, the studies of the curriculum, the length and character of the course, the amount of dissection to be done, the amount of attendance upon clinics and hospital work, the character of the instructors and the equipment of the college. This schedule was promulgated in 1880.

The total number of colleges in 1880..	115
Number demanding matriculation qualification in 1880	15
Number demanding matriculation qualification in 1883	61
Number requiring three courses in 1880	13
Number requiring three courses in 1883	68

In 1893, 104 out of the 106 colleges demanded a matriculation qualification. Most of the other states soon followed the lead of Illinois and enacted some kind of legislation regulating the practice of medicine. For example, in 1893, 42 of the states had some kind of law, although at that time Maine, Massachusetts, New Hampshire and Rhode Island had no legal requirement for the practice of medicine. The effect of passing this law in Illinois was, that of the 3,800 non-graduates in Illinois when the law went into effect, within three years 1,750 left the state or ceased to practice. At that time non-graduates in medicine were examined by the Board and licensed if found worthy. It is to the credit of the Board and the medical profession that in invoking the authority of the state in behalf of the public health and in the exercise of powers granted to the State Board, the first efforts were directed to reforming the medical corps of the state, by seeking to cast out ignorance, pretension, incompetence and all manner of quackery. In attempting to protect the lives and health of the people, the State Board said then, as now: "your greatest danger is from the ignorance and iniquity of pretending physicians;" and an effort has always been made to protect the people by subjecting the qualifications of all persons desiring to practice medicine in this state to reasonable and satisfactory examinations and tests.

First act in force July 1, 1877. Objections:

A. Exempted all persons who had been practicing in the state for ten years, whether graduates or not.

B. The fee of \$5.00 was too small to permit the board to carry on satisfactory work and enforce the act.

C. The prosecution for practicing without a license was in the form, criminal, thus making it the statutory duty of the state's attorney to prosecute, when complaints were made.

D. The exemption clause was unsatisfactory.

This act was repealed and replaced by the act of 1887, being in force July 1, 1887.

Objections:

A. It provided for the issuance of a license on presentation of a diploma.

B. The act was a penal statute, and the proceeding for its violation was a civil action begun by an ordinary summons in debt, issued by a justice of the peace.

Under this law there was no imprisonment provided, and it was in every particular a civil proceeding. Of course, if the fine was not paid, a mittimus could issue and the defendant be committed to jail, just as under our present law. This was a penalty, not for illegal practice, but for not paying the fine.

It may be said in passing that an action of debt is not an adequate remedy for punishing a transient violator of the law, for the reasons that where a summons in debt is issued there must be an interval of at least five days between the issuing of the summons and the trial before a justice, and a longer period if in the circuit court; and in the meantime the defendant has ample time to leave the county or state. If he does depart, a judgment can be obtained, and he can be arrested if found within the state, and committed to jail until the judgment is paid. However, the chief purpose of the law has been accomplished even though he is not apprehended; he has been compelled to quit practice in the state.

Our present law, the act of 1899, exempts no one as did the law of 1877, and it recognizes no diplomas as did the law of 1887, at

least it leaves it to the Board to use its discretion in exempting the graduates of Illinois colleges, but it has never exercised this discretion and compels all persons to submit to an examination.

Revocation of certificates: The power of the Board is limited in the exercise of its powers by decisions of the supreme court. For example, we cannot revoke certificates issued under the act of 1877, nor the act of 1887, and, under the present act, only after convictions of certain offenses, but the Board has not the power to convict; that is a matter for the criminal court, as, for example, in cases of habitual criminal abortion.

Summary of defects in present law:

A. The word "begin" in first section.

B. It exempts graduates of Illinois colleges.

3. It prevents the disciplining for unprofessional conduct of those licensed under the acts of 1877 and 1887.

This in accordance with the decision of the supreme court.

Since the Illinois supreme court has decided that osteopathy is the practice of medicine, a word in regard to it may be permitted. Under section 2 of the act of 1899, the Board has licensed osteopaths under the head of "other practitioners," ever since the law went into effect.

An osteopath bill passed both houses of the Illinois legislature in 1897 and was vetoed by Governor Tanner. Another one passed the senate in 1899 and was killed in committee of the house. A third one passed both houses in 1903 and was vetoed by Governor Yates. At the present session of the legislature six osteopath bills were introduced, but were killed in the house and senate.

During the session of the 43d General Assembly, a bill was introduced creating a board of examiners. Owing chiefly to want of harmonious action on the part of the legislative committee of the State Medical Society, it failed to become a law. Some idea of this bill may be gathered from the statement of the editor of the Illinois Medical Journal March, 1903, when he says: "*All schools are guaranteed representation, which for the*

sectarian schools and *osteopaths* is an improvement on the present law."

At the present time, the chief functions of the Illinois State Board of Health are the general supervision of all sanitary and public health matters and quarantine in the state, the examination and licensing of physicians and of "other practitioners," the licensing of embalmers, the licensing of midwives, the inspection of lodging houses in all cities of 100,000 inhabitants and over in the state.

The Board establishes a schedule of minimum requirements for medical colleges, making a high school education the preliminary entrance requirement, prescribes the length of the term, which must be not less than seven months, no two courses to be given in the same calendar year of time, prescribes the minimum number of hours of instruction in each term, the studies of the curriculum, the character of the college equipment, and all those colleges complying strictly with these rules are considered in "good standing" with the Board. This simply admits them to the examination. If their credentials are found satisfactory, and if they possess a diploma from a recognized school and sustain a satisfactory examination before the Board, they are then licensed. The "other practitioners" referred to are mostly osteopaths and this term refers to the licensing of all those who treat human ailments without the use of drugs, or by mechanical appliances. The license issued by the Board may be revoked for a cause or may be withheld for certain causes. A penalty may be imposed for conviction for practicing medicine without a license. Notwithstanding all the safeguards that are thrown about doctors of medicine, and notwithstanding the honest attempts to provide the people with honest, honorable, educated physicians, Eddyisms, Dowicisms, Christian Science, osteopathy and various other beliefs, fads and cults have come into vogue and have claimed considerable following.

A man was told once upon a time "to go and bathe seven times in the Jordan and be clean." His reply was, "Lord, give me some great thing to do." Ever since then, we find

many people dominated by their emotions and fascinated by anything which is new and vague and has an air of mysticism about it. People will buy quack remedies and advertised nostrums and patronize the most disreputable class and do this of their own volition, rather than employ honorable, skillful, conscientious, educated physicians. This has been true form the beginning of time and will probably remain true to the end of time.

INTUSSUSCEPTION IN INFANCY AND CHILDHOOD WITH COLLEC- TION OF 1028 CASES WITH STATISTICS.

BY J. H. HESS, M. D., CHICAGO.

In presenting a paper on so general and interesting a subject, it becomes necessary to select a few of the main topics for discussion to the exclusion of the remainder except in so far as they are illustrated by the reports of my 3 cases which are as follows:

CASE I.—Baby N., age 8 months, breast-fed, had diarrhoea for several days, recovered spontaneously, and was well for several days prior to present illness.

Present history: May 2, '04, had a natural bowel movement about midnight, began to vomit at 5 a. m. Vomiting and crying at intervals until seen at 10 a. m. Enema at 10 a. m. followed by some bloody fecal matter and flatus, this was followed by straining, crying and passing bloody, watery stool at times.

Physical examination: Fairly well nourished, pupils moderately dilated, reacted to light. Mouth and throat, nose and ears negative. Tongue slightly coated and dry, chest negative, abdomen moderately distended and soft, more resistant on right side of median line. On palpation, some gurgling over small intestines and an elongated, resisting mass could be palpated from region of cecum following course of ascending transverse and descending colon to about an inch below left costal arch; this was slightly movable in every direction, considerably so from its terminus

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

in the left hypochondriac region. No tumor could be felt per rectum. Finger returned covered by bloody mucous. Temperature 96.6, pulse 140, respiration 40. Child was sent to hospital and was operated two hours after first examination.

Anaesthetic, chloroform, time, 20 minutes. On entrance to hospital stomach was washed out with return of considerable mucous. Enema given, returned with great amount of small clots and some fecal matter. Temperature after operation 100.2, pulse 130, respiration 36. A median incision two inches in length was made above the umbilicus. The tumor which was about ten inches in length, extending from the splenic flexure to the cecum was reduced without traction, except the cecum which was brought up into the wound. The cecum and appendix were highly congested and oedematous, but were returned without further manipulation and the wound was closed.

Second day: Temperature rose to 103.8, pulse 138, respiration 64 at 3 p. m. Water had been given in one-half teaspoonful doses, and one teaspoon of breast milk was given at 12, 1 and 2 p. m., the child vomiting shortly after taking each dose, with rise in temperature. All feeding except chipped ice was stopped and one-eighth grain doses of calomel and soda were given for two doses, also an oil enema. At 10 p. m. child passes large amount of flatus.

Third day: Temperature rose to 103.2, pulse 134, respiration 66 at 2 p. m. 3 doses of calomel and soda given followed by citrate of magnesia; no food administered except water; child vomited repeatedly throughout the day, and after 5 doses of magnesia, passed considerable flatus.

Fourth day: Afternoon rise of temperature 103; bowels moved 7 times between 1 and 10 p. m., breast milk again being given. 4th to 8th day, temperature ranged from 100 to 103 F., bowel moved regularly and child continued to improve.

Tenth day: Stitches removed. 12th day left hospital. Has had no illness of any kind since.

CASE II.—Raymond M., age 3 years, history negative except for fact that he stands on

the rear rod of a three-wheeled bicycle and leans against the seat, in which position he is pulled around the house.

Present history: April 3, 1905. 8:30 a. m. began with sudden pain in the abdomen, violent in character. Mother says it is so severe that baby stood on his head and she could see a tumor-like mass to the right of the umbilicus; about 10 a. m. began to vomit, returning all food and water, the latter of which he drank a good deal. Enema contained considerable fecal matter. Seen by author at 1 p. m.

Physical examination: Examination negative except abdomen. Abdomen flat, no tympanitis, an indistinct resistance noticeable in right hepatic region and this part of the abdomen was the most sensitive. Although the child allowed a thorough examination to be made without crying, only pushing the hand away when it reached this part of the abdomen. Temperature 98.6 per rectum, pulse 120, respiration 32, rectal examination negative.

9 p. m., findings the same except that the mother had given enema at 4 p. m., which she returned slightly tinged with blood and contained no fecal matter; there was still resistance in hepatic region but no distinct tumor palpable, no tympanitis. Temperature 99, pulse 120, rectal examination negative.

April 4, '05: 8 a. m., 23½ hours after first pain, slight tympanitis, resistance still palpable but not distinct tumor. Temperature 99.4 F., pulse 130, rectal examination negative. Enema given under pressure of 3 feet, returned no fecal matter but a few bloody mucous pieces about the size of an apple seed.

Operation: Twenty-six and a half hours after onset. Total time 40 minutes, incision 2½ inches through right rectus; some free peritoneal fluid, tumor mass lying in region of cecum and extending to hepatic flexure, reduced by pressure from below upward without traction, was easily reduced except last 6 inches which was enteric and was decidedly oedematous and infiltrated, and serous surface covered by fibrinous adhesions. This loop was dark blue in color, but circulation was restored by hot compresses; a slight ser-

ous tear necessitated three small silk sutures. The invagination began in ileum as an enteric intussusception about 8 inches above cecum; after reduction, bowel was replaced and omentum brought down to cover it; abdomen closed in four layers. During operation child was wrapped in blankets and surrounded by hot water bags.

Subsequent history: Vomiting, which had occurred every 10 to 30 minutes before operation, ceased; 3 hours after operation water was given in teaspoon doses every 15 minutes. Next day one grain of calomel was administered in 1-10 grain doses, followed by 3 one-half ounces of citrate of magnesia and was followed in about 12 hours by passage of flatus and shortly after by fecal matter. Nourishment in the way of liquid peptonoids and beef tea were started the day following operation; peptonized milk on second day. With exception of daily fluctuation of temperature between 100 and 101½ F., recovery was uneventful and child left hospital on 14th day.

CASE III.—Baby G., age 4 months, breast-fed. On Feb. 23, 1904, history of uneasiness and frequent desire to go to stool. Slight frequent stools and occasional vomiting since Feb. 20. During morning of 23rd, began to pass bloody mucus and mother called physician for first time. First seen at 2 p. m. Child pale, listless, skin moist and pulse rapid, constantly grunting, passed some bloody mucus from bowel while being examined. The abdomen was flat and a tumor could be felt in sigmoid region, extending upward. Child taken to hospital and operated two hours later.

Operation: Anaesthetic, chloroform, time about 20 minutes. Tumor extending from cecum to sigmoid region was rapidly reduced and abdomen was closed without further manipulation. Before operation temperature was 104.2 per rectum, 8 p. m. 103, pulse 126, respiration 60. Child given 1-100 grain morphine and a little water.

Second day: Temperature ranged between 100-1.5 and 102, pulse 100 to 160, respiration 32-48. Child took water but refused breast; sharp, piercing cries, breathing seemed painful, passed flatus at 1 p. m.

Third day: Temperature rose to 106, pulse 120, respiration 64. Bowels moved three times during the day; child grew constantly weaker until 4 p. m. at which time it died.

Autopsy: Heart negative, left-sided bronchopneumonia. Seat of intussusception some exudate, bowel thickened and hemorrhagic, but no recurrence of intussusception.

In cases 1 and 3, I wish to thank Drs. G. J. Hagens and J. S. Hunt respectively, with whom I saw the cases in consultation.

Pathology (Microscopic: In presenting the microscopical findings of our case, one of the ileo-caecal variety, which was probably one of that class of cases most favorable for surgical interference, and which was operated within 18 hours, after onset of the first symptoms of invagination, I desire to emphasize the necessity for early surgical interference if we should hope for a lowered mortality in this rapidly destructive lesion of the bowel. The mucous membrane and its underlying sub-mucous coat seemed to have borne the brunt of the destructive process in both the ileum (section ½ inch above the ileo-caecal valve) and the colon (section 1 inch below the ileocaecal valve), which formed a part of the intussusception. The mucous membrane showed areas of marked infiltration, destruction of the glandular elements and several areas of ulceration of the mucous membrane down to the sub-mucous coat and occasionally involving the muscular layer of the bowel. The sub-mucous layer is the seat of hemorrhagic infiltration, separation of its constituent fibres, with a resulting thickening of the entire coat; in places being from 4 to 8 times its normal thickness. The seat of the round cell infiltration was most marked beneath the ulcerated areas in the mucous membrane. The lymphadenoid tissue forming the solitary follicles and Peyer's patches is greatly increased. In my specimen in which the peristaltic action of the bowel has been restored the infant dying on the fourth day following operation, from a bronchopneumonia, the circular and longitudinal layers, as well as the serous coats, have undergone little change.

The right lung is the seat of bronchopneu-

monia quite generally distributed throughout the middle and lower lobe. The great lesson taught by the unfortunate outcome of this instructive case, I believe, is the necessity for early and radical surgical treatment, though we must remain in doubt as to whether the source of the pulmonary infection was through the respiratory tract direct or by infection taking place through the ulcerations of the bowel. That every hour of delay means an increased danger of absorption of intestinal bacteria with probable infection in distant organs even when the muscular and serous coats remain intact, while with their involvement the dangers of general or a local peritonitis are only too imminent.

D'Arcy Power reports the various histologic changes exhibited by the portions of intestine involved in an intussusception, in a series of 31 cases from which I quote. The result of his examination, shows that any part of the intestinal wall may be affected, but that one portion usually suffers more than others, and the stress of the affection falls most often upon the sub-mucous tissue and upon the circular layer of muscle. The mucous membrane, too, may be seriously injured, but the longitudinal layer of muscle and the serous coat are the least often affected. The earliest histological changes are correlated with an effusion of blood, but the amount of the extravasation varies greatly, at one time so slight as hardly to displace the tissue, another time so considerable as to utterly destroy them. The seat of the extravasation also varies. It may be in the mucous membrane and it seems that this occurs in the most acute cases. It is usually in the sub-mucous coat, though it may be in the muscular layers of the serous coat. The extravasation is followed by inflammatory changes, in which the sub-mucous tissue and the circular layer of muscle are chiefly involved. These changes terminate in a hyperplasia of the connective tissue, leading to sclerosis, in a tryptic (pancreatic) digestion, leading to the disappearance of every cellular element in the wall of the bowel, and the conversion of its connective tissue into reticulin, in diffuse suppuration or in sloughing of the inflamed

bowel, which is then separated and cast off by the ordinary process of ulceration.

Etiology: The cause of the spontaneous intussusception is unknown, but D'Arcy Power has shown that the width of the large intestine at birth is only a few millimeters greater than that of the small intestine. Before birth its diameter is the same or even a little less, while at the age of fifteen years, it is two and one-half to three times as large. The colon begins to grow in girth directly after birth, though it remains for a time almost stationary in length. The ileum, on the other hand, grows both in length and breadth. The Ileum, however, rarely doubles its diameter in the course of its growth, but the large intestines not only, often doubles its size, but may even treble or quadruple it. These facts seem to have an important bearing upon the question of the origin of intussusception in young children. The colon is growing in width rapidly, and continuously from birth onward, but at about the age of four months, the exact time when spontaneous intussusception becomes common, it also begins to grow in length. The small intestine has grown steadily in length and breadth from the beginning, though the increase in its circumference is less rapid than the increase in its length. During the early months of a child's life, therefore, there is a rapidly increasing disproportion between the transverse diameters of the large and small intestines and physiology teaches that too rapid growth is often associated with perversion of function, especially when, as in this case, the increased rate of growth affects both the muscular and the nervous tissues. Unduly rapid growth of the large intestine, may even allow the end of the ileum to become prolapsed into the colon, and, under suitable conditions, such a prolapse may serve at the starting point of an intussusception. When an intussusception has once been started, the anatomic peculiarities of the individual alimentary tract are of paramount importance, for they determine the character of the intussusception. In the ileo-caecal forms the colon, with few and simple ileocolic folds devoid of lymphatic glands, will allow the intussusception to run a chronic course even though the

amount of bowel invaginated is very great. Complex fossae with numerous lymphatic glands at the ileocolic angle and prolongations of mesentery along the wall of the ileum will, no doubt, so far steady this portion of the small intestine as to render its invagination less likely, though, should it occur, the additional amount of tissue invaginated will render the impaction peculiarly tight, so that if gangrene be not produced at once, early adhesions will be formed and the intussusception will soon become irreducible.

The first event in the formation of and invagination of the bowel is an energetic annular tetanic contraction of some portion of the intestine. This contracted area constitutes the fixed point from which the invagination develops. The invagination, however, is not produced in such a manner that the contracted portion of the bowel is forced into the normal intestine below this spot by the peristaltic wave coming from above, on the contrary, the invagination is primarily produced by the action of the musculature of the normal portion of the intestine situated below the contracted spot. It is probable that the longitudinal muscles of the intestinal wall of the piece of intestine are chiefly active, and that they pull the normal intestine situated below the point of spastic constriction upward over the contracted piece of bowel.

When the process of invagination has once started, and particularly when it exceeds the limits, it is enforced and reinforced by the same factors that initiated it. It is quite possible that the head of the invagination, after it becomes tightly wedged into the sheath, constitutes the primary irritant which causes further spasmodic constriction of portions of the bowel situated above it, or cause violent peristaltic movements of this portion of the bowel, which, in its turn carries the incarcerated head downward just as it would propel any other constituent of the bowel contents onward.

In reviewing the literature of the past ten years, I have been able to collect 1,028 cases, reported in a total of over 200 articles; some of these cover a period previous to 1894, but all have been reported since that date, and with the exception of some of Gibson's cases,

and a few others, all have occurred under the age of 16 years. Some of the reports of groups of cases are necessarily incomplete, but in the 314 cases which I have individually collected, and are reported either singly or in small groups, I have been more fortunate in getting details.

Direct causative factors: Although the anatomy of the bowel is undoubtedly a very important factor in the development of a spontaneous intussusception, in a considerable number of cases we have a history of an exciting factor. Foremost of these are intestinal disturbances in children which may or may not secondarily cause a local paresis of the bowel with overaction of a neighboring segment. Lichtenstein believed this to be one of the most important factors. He found 21 cases in which diarrhoea preceded intussusception out of 593 cases, while Fitch found it in 13 out of 45 cases.

Other direct factors are recorded in my series and those of others are as follows:

Number of cases.....	314
No factor recorded.....	272
Constipation	3
Digestive disturbances	5
Blow on abdomen.....	3
Indigestible Food:—	
Boiled peas	1
Cherry stones	1
Round worms in small intestines.....	1
Papilloma of cecum.....	1
Lympho-sarcoma of intestine.....	1
Long mesentery of cecum 7 in. and 9 in..	2
Invagination of Meckel's Diverticulum..	6
Invagination of appendix.....	9
Tubercular ulcer of caecum.....	2
Nontubercular ulcer of caecum.....	1
Tubercular mesenteric glands.....	2
Enlarged postcaecal glands.....	4

Fitz in his series states the exciting causes were absent in 42 cases and the following were the possible causes in 45 cases:

Diarrhoea	13
Habitual constipation	12
Protracted abdominal pain	7
Indigestible food	6
Violent exertion	4
Injury	3

Lichtenstein's series are many in adults,

but suffice to say that of 593 cases, in 261 there was an absence of a history of the cases and in three it developed suddenly in healthy individuals.

Hirschsprung reports 64 cases, one-third of these cases were absolutely healthy up to the time of the onset. The majority were suffering from some intestinal disorder. In 14 diarrhoea of over ten days standing preceded the strangulation. In others constipation had been troublesome.

Age is certainly a most important factor and one on which Powers lays particular stress. My series illustrates the predominance of this lesion in the first year of life. Cases in which the age was stated numbered:

1-3 months.....	8	
3-6 months.....	75	23%
6-12 months.....	118	37%
1-2 years	18	} 60%
2-3 years	12	
3-4 years	13	
4-8 years	32	
8-18 years	24	
Not given	14	

The two youngest aged 6 days each, both died, irrigation only being tried. The remaining 5 under 3 months of age respectively aged 8, 7 and 11 weeks were operated with recovery of the first and last. The remaining 2 were not operated and died.

In Gibson's cases: Eighty-one were one year or under and 49 ranged from 1-10 years.

Hirschsprung reports 64 cases of which 46 were under one year, 9 in the second and 9 from 2 to 8 years.

His youngest case was 49 days, and of the 46 under one year, 39 were breast-fed exclusively (85%), only 2 were bottle-fed from birth and 13 had received other food than milk.

Symptoms—Sketch of the Clinic Picture: The suddenness of the onset is the most striking characteristic of this condition. The remaining symptoms may vary directly or indirectly as to degree of the strangulation of the intestinal and mesenteric circulation, and the permeability of the intestinal lumen, and in enumerating them I shall attempt to classify them according to their diagnostic importance. We find a rapid and unexpected devel-

opment of a train of symptoms reaching their maximum intensity within a short time, more often in a perfectly healthy child, though not infrequently we have a history of some intestinal disturbance or more rarely one of abdominal trauma; they may appear while the patient is at rest, in motion, during feeding, or when asleep. In the majority of cases, the first symptom noted is a sudden violent pain of a colicky character, not infrequently appearing to radiate from a definite point; this is usually shortly followed by vomiting. These two symptoms may be considered to be a constant occurrence in young children. At this time the child usually has one or more bowel movements.

These are usually at first diarrhoeal in character; later, though not invariably, mucous, blood and mucous, or pure blood may be passed, together with thin liquid bowel contents. At this time or even earlier, symptoms of marked prostration are invariable and may soon be followed by collapse, the pulse becomes small and rapid, the attacks of vomiting usually recur and may become feculent; by which time usually there is no passage of the fecal matter by the anus, though some bloody or mucous material, may be evacuated. Tenesmus is frequently a source of great suffering, more especially after obstruction of the bowel has become complete. A rise of temperature in the early stage is rarely observed and the same may be said of advanced degrees of meteorism.

1. *Abdominal Pain.* This is the first symptom of acute invagination. Its onset is without premonition, colicky in character, usually uninterrupted at the outset, later becoming intermittent; its location varies with the seat of the intussusception. But in children this latter point is of little value, because of their inability to localize it.

II. *Nausea and Vomiting.* Nausea and vomiting occur either simultaneously with the pain or immediately after. In my collection of 314 cases, in those which this symptom is noted, vomiting is recorded as being present in 166, absent in 4 cases—the first following a blow on the abdomen, the second a double intussusception comprising a descending ileocecal and an ascending colon, the other two

were of the ileocecal variety—all recovered; four cases had a record of fecal vomiting, two of which recovered, in one case the vomit was bloody, with recovery. One by irrigation on the first day; one by laparotomy on the eighth day. Of the other two one died without operation and the other was subjected to a circular enterorraphy with a fatal result.

In 52 cases reported by Martin, vomiting occurred in 89%. Fitz reports its presence in nearly 9-10 of his cases on the first day, and fecal vomiting in 12 out of 93 cases appearing on or after the 4th day, in all but two of his late cases. It may be continuous or occur at intervals; the higher up in the intestinal canal the invagination has occurred the more prompt and constant will be the onset of emesis. The earliest vomiting as seen on the first day may be regarded as reflex.

III. *Evacuation of the Bowels.* In acute cases we usually have one or more evacuations of fecal material which may vary from thin liquid to formed stools, and represent the intestinal contents below the obstruction. After this has passed we have a complete absence of all fecal matter and flatus if occlusion is complete. After the congestion of the intestine becomes more marked inflammation of its walls begin, we have passages containing blood, serum and mucus. Hemorrhagic evacuations represent one of the most constant symptoms of invagination, present in 156 cases of my cases in which the history was detailed and absent in only 4 cases. The amount of blood varies from a few streaks to a profuse hemorrhage which may cause death. When the condition becomes subacute the hemorrhagic evacuations may cease, transiently or permanently until destruction of the bowel has taken place, when they may again become bloody, contain gangrenous intestinal wall and have a characteristic odor.

IV. *Prostration.* Prostration sudden in development and out of proportion to the other symptoms present, especially when associated with great pain, little fever and a moderate degree of absence of tympanites, should lead to the suggestion of a possibility of intussusception.

V. *Tumor.* The tumor of invagination

is the most important physical sign from the diagnostic stand-point. In 97 cases in which there is a complete history of the case recorded in my collection, 183 give a history of the presence of an abdominal tumor and an absence in 14 cases. With the presence of a rectal tumor in 35 cases and absence of same in 38 cases. In 11 there was an absence of abdominal aand a presence of rectal tumor. Martin records presence of a tumor in 79% out of his 52 cases. Hemmeter records presence of a tumor in 308 out of his 610 cases.

Lichtenstern reports presence of a tumor in 222 out of 433 cases. Raffinesque found it in 24 out of 53 cases of chronic invagination. A tumor may exist and still be too small to be palpated. This is especially true of enteric intussusception. Location of tumor is variable. According to the table of Lichtenstern, the most frequent seat is the region of sigmoid flexure. In my series, 10 cases were in right iliac region, 13 right hypochondriac region, 14 region of transverse colon, 7 in left hypochondriac, 12 in region of descending colon, 24 left iliac region, and 13 in the region of the umbilicus, out of 94 cases in which location was stated. Invagination tumors are relatively very movable, though in rare cases with chronic course they may become fixed and immovable by adhesion.

VI. *Meteorism.* The tympanitic distension of the abdomen depends on the degree of obstruction of the intestinal lumen, upon seat of invagination, and upon the presence of diarrhoea. Meteorism is usually late in developing and its absence is of diagnostic import.

VII. *Tenesmus.* Tenesmus is more frequently present than is meteorism, being especially severe in intussusceptions of the sigmoid region and the rectum. Martin reports its presence in 77% of his cases.

VIII. *Condition of the Abdomen.* Aside from the comparatively rare tympanitic distension already spoken of, there are usually no characteristic symptoms or signs, recognizable on the abdomen superficially. In exceptional cases we recognize the site of the tumor by an elevation as described by the mother in my case No. 2. In enteric intus-

susception, there is usually an elevation in the region of the umbilicus.

IX. Fever. Fever occurs in about 40 per cent of all cases of invagination in which the symptom is referred to, early in the attack. Its presence is to be expected when complications have taken place.

DIAGNOSIS.

I will not attempt to go into the differential diagnosis at this time. Phosphorous poisoning, opium poisoning, undescended testicle, appendicitis, and thrombosis of the mesenteric artery are cases which I have met and which require careful study for differentiation.

Whenever a child who has previously been in good health, or giving a history of intestinal disturbance, presents the group of symptoms—sudden onset of abdominal pain, bloody stools, slight fever, and a prostration out of proportion to the other symptoms—the possibility of an intussusception should be thought of. These combined with nausea and vomiting are almost a constant picture seen in this condition, and when seen together with tenesmus, suppression of fecal evacuation, and flatus, our picture needs only to be completed by the absence of, or a moderate degree of tympanites, allowing us to feel the presence of an elongated abdominal tumor. And none the less important is the palpation of the tumor per rectum. The diagnosis of a chronic form in the absence of an intussusception tumor presents great difficulties, and in these cases it is of especial importance to most carefully and minutely study the history of the case.

Prognosis.—The course of intussusception in the great majority of cases in adults, is acute, in the small minority it constitutes a chronic disease, in infancy and childhood the disproportion is even greater. Experience teaches that the fatal termination is the most frequent and therefore the prognosis is grave, because of the many factors which we encounter and which tend to delay the proper therapeutic procedures, necessary to a successful outcome in their treatment.

Rapid in onset, more rapidly progressive they demand a properly directed, judicious

and radical treatment. Believing that the prognosis rests to a great extent with the individual treatment of each case, which calls for a most careful consideration not alone of the patient and conditions he presents, but also of the hygienic surroundings and the preparation of the physician to give his patient the most modern methods at his command.

In summing up the data which I have at hand, I hope to produce convincing evidence of the lowered mortality which goes hand in hand with the advent of improved surgical technique and its early application in cases of intussusception.

Of a total of 1028 cases collected, 314 are cases reported singly or in smaller numbers throughout the literature of the past ten years, and these I have attempted to classify more in detail: 211 recovered, 103 died of these 34 recovered under non-operative treatment, 26 died; 83 were operated and recovered after operation, previous to which a number of attempts had been made to reduce by irrigation, gas, etc., while 36 died under this method of treatment; 69 were cured by laparotomy after one or no attempts to reduce by irrigation so far as can be ascertained by the histories given, while only five cases reported under this method of treatment died. In the remainder the details of treatment were not stated. Of this group of cases we find that 43% treated by non-operative method died, while 30% of operative cases following several attempts of irrigation died, and only 8% of the cases reported following no or a single attempt at irrigation died; showing that the earliest operation with the least manipulation gives by far the best result. Even though we know that many of the fatal cases are not recorded in the literature, thereby apparently lessening the percentage of mortality, which is apt to be misleading, we are still impressed by the great difference in the percentage of mortality, 8% in the earliest operations and 30% in the later.

Of the total number of 38 resections recorded, 21 were fatal and 17 recovered; of these 23 were done by suture with 9 recoveries; 10 by the Murphy button with 4 recover-

ies and one by the Bobbin with recovery, and one age 7 months with resection of the cecum and anastomosis by the Frank bone coupler by Dr. J. Frank with recovery. Artificial anus was made in 9 cases with 4 recoveries. While in the remaining series of 714 cases collected of 71 resections, 18 recovered; and of 24 cases of artificial anus, 5 recovered. A most interesting group of cases are those of the small bowel, of which I have a record of 22 out of 314 cases of intussusception, with 11 deaths and 11 recoveries. Of the 11 deaths, 1 was operated on the second day, requiring resection, due to gangrene; 8 cases on the third day, six of which were gangrenous, while the seventh presented adhesions; two cases on the fourth day, with adhesions and gangrene. Of the recoveries, 4 were operated on first day, two on second, one on the fourth, one on the fifth, and in the remaining three the day of disease was not stated.

When we realize the impossibility of trying to reach the seat of an enteric obstruction without operation we certainly have a strong argument for early operation without manipulation of these cases. Some of the interesting points noted in this series of cases and which affected the prognosis are:

1. Spontaneous sloughing of intussusception with recovery, one case.
2. Recurrence after apparent reduction: After irrigation 3 deaths and 4 recoveries, after operation one death and one recovery. Showing small percentage of recurrence after operation.
3. Invagination irreducible; 2 recoveries by resection, 8 deaths.
4. Retrograde intussusception, one with recovery by operation.
5. Bowel in one case incised to allow escape of gas, with recovery.
6. Second invagination not found at operation, two deaths.
7. Peritonitis, 8 deaths.
8. Pneumonia, 1 recovery, 2 deaths.
9. Tears in peritoneum, with suture; 3 recoveries, 2 deaths.
10. Rupture of bowel during reduction, 2 deaths.
11. Shock after operation, 4 deaths.

12. Convulsions, 3 deaths, 1 recovery.

Treatment.—We now come to sum up intussusception in its practical aspect, dealing with its treatment which is of as prime importance to the general practitioner, as to the surgeon, for on the former depends the disappearance of the old classification into: 1st, incarcerated and 2d, strangulated forms. In the great majority of cases, neglect of treatment alone carries the bowel to strangulation and is also responsible for the majority of irreducible cases.

For our further consideration we must treat all cases on the basis of their being reducible or irreducible cases.

History of Treatment.—The earliest works of special note on this subject were probably those of Ashhurst, 1874, Lichtenstein, 1873, and Jno. Hutchinson, 1874, although both injections and abdominal sections have been employed for centuries for the relief of this condition. The abdomen was occasionally sectioned in the days before modern surgical technic was discovered, but usually later in the disease with the inevitable result of a suppurative peritonitis and its usual lethal issue.

Laparotomy in intussusception received a distinct impulse in the eighties when Braun in 1885 and others revived the surgical treatment and more especially advocated early surgical interference.

Irrigation in Intussusception.—Clinical study of a series of cases especially as evidenced by the older authors before surgical interference was safe, has taught us that there is an inherent tendency toward spontaneous reduction before the time of paralysis of the muscular coat and formation of adhesions have rendered it impossible. And it is before decided pathological changes in the intestinal wall have taken place that we may hope to obtain results by irrigation or other mechanical methods of reduction. Experiments by Mortimer in 1891 upon the unopen bodies of children for the most part under two years of age, shows that there was apt to be a cracking of the serous coat of the large intestine when the resultant pressure of the fluid distending the colon is about $2\frac{1}{2}$ pounds, that is to say, when the ir-

rigator is raised 5 feet above the patient, and this accident usually happens when the irrigator is raised eight feet. Mole arrived at substantially the same results, and as he worked with the abdomen open, he was able to see the exact manner in which the intestinal rupture occurred, as a result of its over-distention. When this accident is imminent, the peritoneal coat of the bowel splits longitudinally for a considerable length; the fluid then begins to leak through the wall of the gut, a small jet issues, and at last, if the pressure be continued, a large rent takes place with forcible expulsion of the contents of the bowel in the peritoneal cavity. Rupture of the large intestine is most likely to occur in the transverse colon at or near the splenic flexure, whilst in the small intestine it takes place in the unprotected portion of the bowel which is situated between the two layers of the mesentery.

Mechanical distention should be done under complete anaesthesia, combined with gentle external manipulation of the abdomen, the surgeon should be present, and be prepared for incision, if irrigation proves unsuccessful, or in case of accident, so that there may be no further delay. If these conditions cannot be met except under extraordinary circumstances this method of treatment should not be practiced. After apparent reduction by this method the child should be kept under constant observation for recurrences, as incomplete reductions frequently occur and are an indication for immediate surgical procedure.

The Capacity of the Colon.—It is impossible for the surgeon to estimate beforehand the capacity of the colon in any individual case of intussusception, nor can he judge the amount of pressure which may be applied with safety to the inflamed and softened intestinal wall at the neck of the tumor.

Method of Irrigation.—Forty-eight hours is the limit of time within which irrigation is likely to be successful in an ordinary case of ileo-caecal intussusception, with acute symptoms and in most cases far less than this. And such pressure is alone justifiable, in a child of 2 years, as can be obtained by raising a reservoir of water containing a quart of

salt solution at 100° F. 2½ feet above the anaesthetized patient; long-continued distention under a low pressure is of more avail than rapid dilatation under a high pressure and is far less likely to kink the bowel and thereby prevent the pressure reaching the seat of the invagination. Gentle kneading from below upward aids irrigation as possibly does also the inverted position described by Jacobi, with child on its abdomen resting on a soft pillow with hips elevated. The length of an intussusception is no bar to its reduction by irrigation; for many cases are recorded in which an intussusception has protruded beyond the anus. The duration of the symptoms is perhaps always of less importance in an intussusception than their intensity, for a long-standing intussusception is often more easily reduced by irrigation than one of comparatively short duration. The longer the time the symptoms have lasted, however, the more likely it is that adhesions will have been formed. Slight adhesions are not an insurmountable barrier to reduction by irrigation; though they militate greatly against its success.

Contra-Indications to Irrigation.—Abundant hemorrhage would seem to contra-indicate any attempt to reduce the intussusception by irrigation. Much extravasation of blood implies destruction of the muscularis mucosae, infiltration of the submucous tissue, oedema of the circular muscle, and consequently a swollen condition of the mucous and submucous layers, with paralysis of the muscular coat. The swollen tissues render reduction difficult, and if the intussusception be reduced, the paralysis of the muscle allows recurrence to take place, and may thus lead to the loss of much valuable time. Absence of hemorrhage on the other hand, associated with severe collapse, equally contra-indicates the treatment of intussusception by irrigation for it points to the early occurrence of gangrene.

After-Treatment of Cases Reduced by Irrigation.—The after treatment of an intussusception which has been cured by irrigation must consist in keeping the patient absolutely at rest, in the administration of opiates, and in feeling the abdomen gently from time to

time to ascertain that the tumor has not recurred.

Summary of Treatment by Irrigation.
Disadvantages.—

1. Impossible to gauge the amount of pressure.

2. Impossible to exclude presence of serious changes in the bowel wall or the more complicated forms of invagination.

3. Impossible to ascertain when reduction is complete.

4. Injuries of bowel during irrigation heighten the mortality of laparotomy.

5. Delays surgical interference.

Treatment by Abdominal Section.—When investigation after one or more trials under proper conditions has failed to reduce the invagination or only relieved it partially, or there is a suspected recurrence this method of treatment should in all cases be discontinued and abdominal section performed.

Pitts in *British Medical Journal*, 1901, reports 49 cases occurring between 1897-1900 in which all except one case was treated primarily by abdominal section, the exception being a 24 hour case in a seven months infant with resulting cure. He reports 27 deaths and 21 recoveries in the remaining 48 cases, a marked lowering of mortality at the St. Thomas Hospital over preceding years. This radical procedure is due to the fact that in his experience, cases which came to the surgeon have previously been subjected to irrigation repeatedly and this has only too infrequently been done in conjunction with the internal administration of purgatives, which combination has already created a tendency toward collapse.

To Prevent or Minimize Shock.—

1. Place child upon a hot water bed or bag.

2. Envelope extremities and chest in cotton, wool, or some equally serviceable protective.

3. Administer a minimum of anaesthetic.

4. Operate with rapidity and caution, with the least possible exposure and manipulation of viscera, protecting them where possible by hot sponges. This can often be facilitated by making first a small incision which can be easily enlarged as necessity requires.

Another procedure which can be employed profitably in a considerable number of cases, especially those along the transverse and descending colon, is the partial reduction by warm water pressure per rectum just previous to operation, in this way reducing the size of the incision required.

A median incision, beneath the umbilicus, in most cases, answers, but the rectus incision is undoubtedly better, Erdmann's advice on this point being of value. He finds that in most cases going through the right rectus is best except when the tumor is found in the region of the descending colon or sigmoid flexure. He further states that he has never found it necessary to stitch the gut or mesentery to the parietes for the usually ascribed cause of long, lax mesentery or mesocolon, believing that sufficient temporary adhesions will form as a result of congestion and edema of the gut that is finally extended from the intussusciptions. Shortening the mesentery in cases where there is grave doubt as to the reduction remaining permanent is the simplest procedure.

The method of attempted reduction is of initial importance. Never pull on the entering or proximal end, but use pressure on the apex of the mass through the bowel walls, from below, upwards; this will avoid much of the danger of tearing the bowel coats. Slight adhesions can often be broken up by a blunt director applied between the layers, and reduction be accomplished.

Where there is any difficulty in the final reduction, or the condition of the bowel is uncertain, the same should be completed outside the peritoneal cavity. Any serious tears of the serous coat of the bowel should either be remedied by suture or covered by omentum, and suspicious bowel should be treated by such methods as the case suggests.

Difficulties in replacing inflated bowel is of very frequent occurrence, especially in young infants. In such cases the incision should be enlarged early, and not after several vigorous attempts at reduction. By this means they can usually be replaced. Where such a solution is impossible incision or puncture of the bowel may become necessary. With the bowel distended in this manner

every precaution should be taken not to include the bowel in the abdominal wall sutures.

Treatment of Irreducible Intussusceptions and Those Cases in Which the Bowel is Moribund.—Congestion and the loss of the bowels natural gloss as is so frequently seen in the severer and older cases of invagination, should not cause the surgeon to too hastily assume that the bowel is dead. But rather to lead him to test its vitality by pricking it gently in which case if only congested, bleeding will take place or again by gently stroking it until its vessels are emptied, the vessels readily refill if the bowel is viable. (Powers.)

These points cannot be too seriously considered as at this stage of the disease we almost invariably find marked prostration, toxæmia, etc., and only too frequently is the most insignificant of surgical procedure too much for our little patients to withstand, therefore, making it imperative that we should undertake the operation necessitating the least manipulation and the greatest chances for recovery.

Pringle in 1899 suggested one of 5 methods of procedure in irreducible cases.

1. Removal or excision of the whole invagination with end to end suture or other union.

2. Removal or excision of the whole invagination with the establishment of an artificial anus.

3. Leaving the invagination and establishing an artificial anus above it.

4. To short circuit the bowel and let the invagination alone.

5. Suturing the entering piece of intestine, to the ensheathing tube at its neck by a continuous suture. (Other authors recommend an interrupted row of sutures.) and then opening the ensheathing tube below the neck to extract the intussusception and to excise it within the sheath, (or where possible from below) if accessible through the rectum.

1. The first method is the ideal one and the end to end anastomosis with simple suture is in most cases the most satisfactory. The Murphy button shortens the time, but

cannot be used in all cases. For instance, in the large intestine the appendices epiloicæ make the two surfaces uneven and irregular. Powers recommends packing with gauze about the bowel with partial closure of the wound, where there is considerable shock and where there is a chance for the restoration of the circulation.

2. The second method of artificial anus leaves the operation incomplete and should only be resorted to in exceptional cases because of the high mortality.

3. The third method almost invariably results in a permanent fecal fistula while the gangrenous bowel remaining in the abdomen tends to promote further sepsis.

4. The last objection also applies to this method.

5. The fifth method proposed by Ryd-gier is apparently the most practical, but also has its drawbacks, in such cases where there are strong adhesions between the invaginated bowel and the returning layer. Also a danger of leakage along the thickening mesentery.

Dangers of Incomplete Operation.—Before closure of the abdomen the operator should satisfy himself with the least possible manipulation, that there are no remaining invagination or other pathological conditions, which are resulting in obstruction of the bowel or may cause a recurrence.

Summary of Treatment.—

- (1). Intussusception demands an early diagnosis and immediate treatment.

- (2). Abstinence from all food and far more important, purgation, must absolutely be prohibited. The question of sedatives in the form of opium, etc., must rest with the physician.

- (3). Irrigation may be tried once or twice under the proper conditions and in properly selected cases.

Conditions:

- (1). Preparation for immediate laparotomy in case of failure.

- (2). Complete anaesthesia.

- (3). Hot salt solution or plain water

may be used under a pressure of not more than 3 feet, the fluid being allowed to remain in the bowel, not less than 10 minutes.

(4). *Contra-Indications to Irrigation:*

1. Recurrence after a previous complete or partial reduction.

2. The very acute and severe types of this disease which result in early destruction of the bowel wall, but which cases are fortunately not the most frequent type.

3. Where there are signs of beginning gangrene or ulceration evidenced by subnormal temperature, profound toxæmia and other septic symptoms.

4. Enteric intussusceptions.

(5). Laparotomy should follow failure of irrigation without delay.

(1). Attempted simple reduction from below upward.

2. In irreducible cases. Resection within the bowel in selected cases, or where this is not feasible resection with end to end anastomosis, should be attempted where the patient's condition makes it practicable. As an artificial anus or simple packing about the bowel requires a secondary and only too frequently, fatal operation.

5501 Indiana ave.

CASES REPORTED DURING PAST TEN YEARS BY
VARIOUS AUTHORS.

Author	Year	Total	Non-surgical		Simple Reduction		Resected		Artificial Anus		Not Stated or other Operations	
			R	D	R	D	R	D	R	D	R	D
Gibson ...	1888-1900	187			30	16	6	26	5	5	6	18
Rydqzier ...		8					11	8				
Gorham ...	End '96	103	16	28	21	24						19
Hirschsprung												
Power ...	1896-1900	65			23	25	1	7		7		
Pay ...	1897-1899	21			10	11						
Potts ...	1898-1900	27			21	27						
Potts ...	1894-1898	32			6	22						
Bolch ...	1897-1904	8			3	1		3	1			
Bain ...	1895	29			4	14		5	6			
Weichmann	1870-92	138										
Martin ...	1898	43	6	22						41		97
Crutcher ...	1898	22	3							9		12
Murray ...	1899	16	6	7	18					1		10
Barker ...		25			18							3
		714	31	61	186	170	18	53	5	19	60	161

SERIES OF CASES COLLECTED BY THE AUTHOR.

Day of Sickness	Total		Reduction Non-operative		Lapar. Reduction		Reduc. without or following one Irrig.		Resection		Artificial Anus.		Adhesions		Gangrene	
	R	D	R	D	R	D	R	D	R	D	R	D	R	D	R	D
Not given	42	23	13	8	14	7	12						1	1	5	5
1 day	48	10	13	3	38	5	47						1	6	2	2
2 days	40	28	4	8	15	10	4						3	14	4	1
3 days	8	20	1	3	1	7	1						1	1	1	1
4 days	10	6	1	2	8	3							5	5	5	3
5 days	2	7	1	1	1	1							1	1	1	1
6 days	2	2			2		1						1	1	1	1
7 days	3	3	1	1	1	1	1				1	1	1	1	1	1
8 days	3	1			1	1	1				1	1	1	1	1	1
9 days																
10-12 days	2				1											
2-3 weeks	5				1		2		2		1			2	1	1
3-4 weeks	3															
4-6 weeks	5	2	1		1	1	1		2	2				3	1	1
3½ months	1	1												2	1	1
1½ years	1								1	1				1		
	211	103	314		24	26	83	36	69	5	16	21	4	7	49	30
					43		30		8							

Discussion on the Paper of Dr. Hess.

Dr. Edward H. Ochsner, of Chicago: Mr. President.—The consideration of the subject of intussusception is extremely interesting, and the manner in which the essayist has described the symptoms will help us greatly in making a diagnosis in time, when something can be done. The fact that intussusception must often be undiagnosed was forcibly impressed upon me, for the reason that there are two men who have sent almost all their cases of intussusception to us. When they sent their cases of intussusception to us, there was nothing to do but to operate, and operation has verified the diagnosis. This has led me to believe that it cannot be entirely a matter of accident, but that there must be a good many cases of intussusception that are not diagnosed. I have tried to support this proposition by statistics, but I have failed. Last winter I looked over the reports of the different hospitals in Europe, but in no one of which could I find out what proportion of cases were operated with a diagnosis of intussusception, and what proportion of cases that came to the hospital died without diagnosis, and only that would determine whether my supposition is right that a great number of cases of intussusception go undiagnosed. I had a second reason for believing this. About two years ago I saw a case of intussusception in a boy, 9 years of age, that had remained undiagnosed five months. I had reason to believe that was right, because after analyzing the history carefully, we had reason to think that the case was not diagnosed for that length of time. The anatomical conditions found proved conclusively that if five months had not intervened between the onset and the making of the diagnosis, considerable time must have intervened, because the colon was dis-

tended to the diameter of a man's forearm at its fixed point; it was fully four inches in diameter, and the thickness of its walls was at least three-eighths of an inch. That condition cannot occur unless obstruction has existed for at least weeks, if not for months. The patient was seen by a dozen men before the diagnosis of intussusception was made. The interne made a diagnosis before I saw the patient. The diagnosis was so easy that anyone could have made it, at least at the time I saw the patient.

Dr. Hess has not considered the technique of the operation for intussusception, but I feel sure that next to the importance of early diagnosis comes the importance of proper technique. There are a few things outside of ordinary surgical rules that are of importance in cases of intussusception. One must not operate through a small wound; he must make the incision amply large. I have seen several cases whose chances of recovery would have been much better if the surgeons had made a sufficiently large opening. If one tries to operate through a small wound, he is compelled to put too much traction on the already diseased bowel.

A second point is the importance of beginning to reduce the intussusception at the right end. The tendency is to pull out the intussusceptions. I am convinced that is the wrong thing to do. Since I accidentally stumbled onto the other form, I have snipped off the lower end of the bowel, and in doing that I have avoided traction upon the weak part of the bowel; the weak part of the bowel is that part which is being forced into the lower portion. That is the place where the circulation forms, and that is the place that must be protected, and by pulling off the lower end of the bowel like one pulls a glove off the finger, he is much less likely to injure the lumen of the intestine.

Dr. Robert J. Christie, of Quincy: Possibly we all recognize the importance of this condition and the importance of this paper.

In my limited experience, it was my fortune to see two cases of intussusception the past year. In one there was a spontaneous or symptomatic cure by sloughing, the fecal current being re-established. There was an abscess formed which pointed toward the umbilicus. This was evacuated, drained, followed by a complete cure.

The other case was that of an adult. The intussusception was not diagnosed for four days after its onset. When I saw the patient his condition was not such as to make a diagnosis. He was subjected to operation, as we see it now against good judgment, for peritonitis supervened, and he did not recover from the operation.

I saw one other case where a spontaneous cure occurred, showing that such a thing is possible. While I do not claim that was the course to pursue in cases of intussusception, it shows the possibility of such a termination.

Dr. Hess (closing the discussion): I wish to say a word or two in regard to the point made by Dr. Ochsner, namely, the reduction of the intussusception. If we begin above the

seat of obstruction and just squeeze on the bowel down toward the cecum, we have no trouble in reducing the greater part of the intussusception. That point is well taken because of the great danger I had in three cases. The danger in those cases lay in the reduction of the last one or two inches where there was marked constriction and a tendency toward degeneration of the bowel.

Another thing that sometimes aids in the reduction of these cases is irrigation before operation, that is, while the child is under an anesthetic, using irrigation to partially reduce the intussusception and finishing it up with an incision.

IMPORTANT POINTS IN THE TECH- NIC OF PERINEAL PRO- STATECTOMY.*

BY A. J. OCHSNER, B. S., F. R. M. S., M. D.
CHICAGO.

The general subject of perineal prostatectomy has received the amount of attention deserved by an operation of such immense importance at the hands of many of the most capable American and European surgeons. The contributions of Goodfellow, Fuller, Mynter, Syms, Munroe, Alexander, Young, Horwitz and many others in other cities, and Murphy, Ferguson, Andrews, and Lydston of our own society, as well as those of Willy Meyer, our distinguished guest of this evening, stand out as worthy efforts in the development of a valuable field of surgery.

Whenever a new operation is being developed, a number of years pass by before the useless and the useful, the harmless and the harmful have been thoroughly separated. Presently a number of parallel methods develop which are apparently equally safe and equally satisfactory.

Analysis of these various methods usually develops the fact that there are certain fundamental factors or principles contained in all of these methods, and the differences refer only to unimportant points, although the completed operations may apparently differ considerably.

I have carefully followed most of the operations in general surgery which have been

*Read at a meeting of the Chicago Medical Society.

introduced during the past twenty years, through the various phases of their development, and have been able to demonstrate the above fact to my complete satisfaction.

If a surgeon has once determined these important principles in connection with any operation, it becomes a simple matter to select the technique most certain to bring safe and satisfactory results.

The important points in the technique of perineal prostatectomy implies, of course, as nearly as possible an aseptic operation and this in turn implies the disinfection of the bladder for some days preceding the operation, preferably by the administration of some internal remedy like Urotropin. This could scarcely be counted as a step in the technique but it is of such great importance that it seems necessary to mention.

STEPS OF THE OPERATION.

1. *Incision.* The incision must thoroughly expose the gland. If the horseshoe incision of Zuckerkandl is used, the gland is exposed fully to view. If the unilateral incision, or the median incision is employed, it is much more difficult to see the gland, but it can be perfectly outlined by the index finger, and in this way it can be enucleated en masse; or it can be gnawed out little by little with the Ferguson gnawing forceps; the fact, however, remains that the gland must be freely exposed either to sight or touch.

2. *Hemorrhage.* Care must be taken to prevent hemorrhages. This can be done readily by remaining as nearly as possible exactly the same distance from the urethra and the rectum, in splitting the septum, and by grasping the branches of the internal pudic artery on either side, either before or directly after they are cut. Next it is necessary to carefully clamp any bleeding veins that may be injured near the neck of the bladder. All of these points are exceedingly simple.

3. *Retraction.* It matters not whether one employs Syms' balloon or Ferguson's Lydston's, Young's, or any one of the many other forms of tractors, or sharp cat's paws retractors for bringing down the gland, so

long as it is placed in a position in which it can be kept under control during its removal.

4. *Traumatism.* The total amount of traumatism should be reduced to a minimum.

5. *Continuity of Urethra.* In case the prostatic urethra is removed completely at any point, the upper and the lower ends of the urethra should be united by placing a few catgut sutures in the anterior wall, leaving the posterior wall open for drainage.

6. *Drainage.* Good drainage is important no matter how this is accomplished.

At the present time we insert a drainage tube through the perineal wound into the bladder and also a soft rubber catheter through the entire urethra into the bladder. We also carry a piece of iodoform gauze up into the region of the prostate gland and permit it to protrude through the wound in the perineum directly over the drainage tube. This method is not essential because many surgeons obtain equally good results in other ways. Some simply leave the wound open and permit drainage through the wound directly, after the plan employed many years ago in perineal section for the removal of stone of the bladder.

If this plan is followed the operation must of course be performed through a median or a lateral incision, which will hold all of the tissues in a normal position while healing takes place.

7. *Time.* It is important to limit the operation as regards time, in order to reduce the amount of shock, and the harmful effects of the anaesthetic upon the kidneys.

If these points are borne in mind, the operation gains greatly in simplicity and loses greatly in gravity.

I have performed perineal prostatectomy in more than sixty patients and have followed the literature closely and it seems that from a practical and a theoretical standpoint the above are indeed the important points in the technique of perineal prostatectomy.

ILLINOIS STATE MEDICAL SOCIETY.

Minutes of Proceedings of the Fifty-Fifth
Annual Meeting at Rock Island,
May 16, 17 and 18, 1905.

MAY 16, 1905—FIRST GENERAL MEETING.

The Society met at the Methodist Church
at 9:35 A. M., and was called to order by
the President, Dr. William E. Quine, of Chi-
cago.

REPORT OF THE COMMITTEE OF ARRANGE-
MENTS.

Dr. C. Bernhardt, Chairman, reported on
behalf of the local Committee of Arrange-
ments that at 2:30 P. M. today there would
be a trolley ride for the visiting ladies through
Davenport, Moline and Rock Island, with a
short stop at the Watch Tower Inn for light
refreshments. In the afternoon of the second
day there would be a reception for the
visiting ladies from 3 to 6 P. M., given by
Mrs. C. Bernhardt at her residence.

The general meeting adjourned, and Sec-
tions One and Two were called to order.

SECOND GENERAL MEETING.

The Society met at the Illinois Theatre,
and was called to order at 8:00 P. M., by
First Vice-President, Dr. H. C. Mitchell, of
Carbondale.

Prayer was offered by the Rev. R. B. Wil-
liams, D. D., of Rock Island.

Mrs. Pauline Waltman Brandt, of Chica-
go, rendered a vocal solo, after which the
Hon. Geo. W. McCaskrin, Mayor of Rock
Island, was introduced, and delivered an
Address of Welcome.

Dr. Geo. L. Eyser, of Rock Island, fol-
lowed with an Address of Welcome on behalf
of the Rock Island County Medical Society.

President William E. Quine responded to
the addresses of welcome on behalf of the
Society, after which he delivered his Annual
Address. He selected for his subject, "Ideals
and Practices of the Medical Profession."

Dr. J. W. Pettit, of Ottawa, delivered the
Address of Section One, entitled, "What We
Must Learn and Unlearn in the Treatment
of Tuberculosis."

Adjourned.

THIRD GENERAL MEETING.

May 17, 1905.

The Society was called to order at 11:30 A.
M., by the President.

The first order was a report of the House
of Delegates by the Secretary.

The Secretary: Mr. President, at its ses-
sion today, the House of Delegates elected
the following officers:

President—Dr. H. C. Mitchell, Carbon-
dale.

First Vice-President—Dr. W. K. New-
comb, Champaign.

Second Vice-President—Dr. M. S. Marey,
Peoria:

Councilors—First District, Dr. J. H.
Stealy, Freeport; Second District, Dr. W.
O. Ensign, Rutland; Eighth District, Dr.
Columbus Barlow, Robinson.

Members of the House of Delegates of the
American Medical Association—Dr. D. G.
Smith, Elizabeth; Dr. Wm. M. Harsha, Chi-
cago; Dr. Frank Billings, Chicago; Dr. J. R.
Hollowbush, Rock Island and Dr. J. F. Percy
Galesburg. Alternates, Dr. C. S. Bacon,
Chicago; Dr. D. W. Graham, Chicago; Dr.
L. C. Taylor, Springfield; Dr. J. C. Cook,
Chicago; Dr. J. L. Wiggins, East St. Louis;
Dr. E. M. Sutton, Peoria; Dr. J. M. G. Car-
ter, Waukegan and Dr. S. C. Stremmel,
Macomb.

Treasurer—Dr. E. J. Brown, Decatur.

Secretary—Dr. E. W. Weis, Ottawa.

The sections elected the following officers:

Section 1. J. H. Stowell, Chicago, Chair-
man.

H. H. Whitten, Peoria, Secretary.

Section 2—R. J. Christie, Quincy, Chair-
man.

S. C. Plummer, Chicago, Secretary.

Committee on Public Policy and Legisla-
tion—Dr. Frank Billings, Chicago; Dr. Carl
E. Black, Jacksonville; Dr. J. W. Pettit,
Ottawa, and the President and Secretary
(ex-officio).

Place of meeting, Springfield.

The President asked what disposition
should be made of this report.

On motion the report was adopted as read.

The next order was the induction of the
President-elect into office.

The President appointed Dr. W. O. Ensign
to escort the President-elect, Dr. Mitchell,
to the platform.

The retiring President, Dr. Quine, in introducing his successor, said:

"Ladies and Gentlemen of the Society: It is a great privilege and pleasure to me to be able to demonstrate the correctness of one of the statements embodied in my annual address, to the effect that the highest proof of the value of a teacher is that he turns out better men than himself. (Applause.) I have the honor and pleasure of presenting one of these to you, my old friend and former pupil, Dr. Mitchell. (Applause.)

Dr. Mitchell, in accepting the Presidency, said:

Mr. President and Gentlemen: I am not going to make a speech. I would not be capable of it if I should undertake it. I appreciate the compliment of our former President, and I wish I were only deserving of the honor; but why should you have elected me your President I can hardly understand, when I have so many colleagues that could serve you so much more ably than I. I promise you one thing, however, it shall be my greatest endeavor to serve you to the best of my ability. You will always find me loyal to the interests of the Society, and I will do my best to make the meeting in 1906 one of the best in the history of the Society, with your co-operation. I thank you. (Applause.)

Dr. Hollowbush announced on behalf of the Committee on entertainment that this afternoon the Society and its guests would be given a trolley ride through the three cities, Moline, Rock Island, and Davenport, Iowa.

Dr. Bernhardt, as Chairman of the Committee of Arrangements, asked for further time to make a final report.

It was moved and carried that further time be granted to him, and that he make his report to the Council.

On motion of Dr. William H. Wilder, a cordial vote of thanks and appreciation to the profession of Rock Island and the ladies was extended to them, and particularly to the members of the Committee of Arrangements for the most excellent entertainment they had furnished.

There being no further business to come

before the meeting, the Society, on motion, then adjourned to meet at Springfield, third Tuesday in May, 1906.

E. W. WEIS, *Secretary*.

ILLINOIS STATE MEDICAL SOCIETY.

Medical Section.

FIRST DAY—MORNING SESSION.

The section was called to order by its Chairman, Dr. M. S. Marcy, Peoria, at 10:30 A. M., in the Public Library.

The first paper was read by Dr. E. R. Larned, Chicago, entitled, "Present Status of Serum Therapy."

The discussion on this paper was opened by Dr. L. E. Ryan, Galesburg, and continued by Dr. E. J. Brown, Decatur; Dr. E. A. Gray, Chicago; Dr. J. H. Bacon, Cleveland, O.; Dr. W. C. Abbott, Chicago; Dr. F. Goodell, Effingham; Dr. Burkhardt, Watson; Dr. C. L. Wheaton, Chicago; Dr. J. W. Pettit, Ottawa, and, in closing, by the essayist.

Dr. J. F. Percy, Galesburg, followed with a paper on "Practical Significance of Certain Common Symptoms in the Upper Abdomen," which was discussed by Drs. J. G. Franken, Chandlersville; _____; J. M. G. Carter, Waukegan; Denslow Lewis, Chicago; Adams, and Percy.

On motion, the section adjourned until 2:00 P. M.

FIRST DAY—AFTERNOON SESSION.

The section reconvened at 2:00 P. M., and was called to order by the Chairman, Dr. Marcy.

Dr. Heman Spalding, Chicago, read a paper on "The Optional Disease," and illustrated the paper by numerous lantern slides.

The paper was discussed by Drs. H. G. Anthony, Chicago; J. M. G. Carter and W. C. Abbott, Chicago; S. M. Miller, Peoria, and, in closing, by the essayist.

Dr. Hugh T. Patrick, Chicago, followed with a paper entitled, "Indormescent Shock."

The discussion was opened by Dr. H. Spalding, Chicago, continued by Drs. J. M.

G. Carter, Chicago; E. J. Brown, Decatur; J. G. Franken, Chandlersville, and closed by Dr. Patrick.

Dr. Geo. W. Webster, Chicago, read a paper entitled, "The License and Control of the Practice of Medicine in the State of Illinois."

Dr. Henry G. Anthony, Chicago, contributed a paper on "Scrofula," which was discussed by Dr. Weir.

Dr. J. H. Bacon, Cleveland, O., read a paper on "Pericarditis," the discussion on which was opened by Drs. W. C. Abbott, Chicago; E. J. Brown, Decatur, and closed by Dr. Bacon.

The section then adjourned to meet at 9 o'clock the following morning.

SECOND DAY—MORNING SESSION.

The section re-assembled and was called to order by the Chairman, Dr. Marcy.

The following Nominating Committee was appointed by the Chair: Drs. J. W. Pettit, Ottawa; J. M. G. Carter, Waukegan, and M. Etherton, Carbondale.

Dr. G. G. Craig, Rock Island, read a paper on "Typhoid Fever," which was discussed by Dr. A. W. Baer, Chicago.

Dr. H. C. Mitchell, Carbondale, read a paper entitled "The Value of *Isnordia Palustris* (Marsh Purslane) in the Treatment of Erysipelas," with a report of cases.

The discussion on this paper was opened by Dr. J. M. G. Carter, Waukegan, and continued by Drs. E. J. Oschsner, W. C. Abbott, Geo. F. Butler and Wm. F. Waugh, all of Chicago; M. S. Marcy, Peoria, and, in closing, by Dr. Mitchell.

Miss Adella Sater, Ottawa, contributed a paper on "The Importance of Diet in the Treatment of Tuberculosis."

The paper was discussed by Drs. J. W. Pettit, Ottawa; E. A. Gray, A. C. Croftan and F. B. Turck, all of Chicago.

The following papers, comprising the symposium on Chronic Nephritis, were then read:

"Ocular Manifestations of Chronic Nephritis"—Dr. Leigh E. Schwartz, Chicago.

"Diagnosis of Chronic Nephritis"—Chas. L. Mix, M. D., Chicago.

"Medical Treatment of Chronic Nephritis"—A. R. Elliott, M. D., Chicago.

The discussion on these papers was opened by Dr. Geo. F. Butler, Chicago, and continued by Drs. Long, E. J. Brown, Decatur; J. R. Pennington, Chicago; W. J. Butler, Chicago; and closed by Drs. Schwartz and Mix.

An adjournment was then taken until 2:00 P. M.

SECOND DAY—AFTERNOON SESSION.

The section reconvened, and was called to order by the Chairman, Dr. Marcy, at 2:00 P. M.

The following papers were then read:

"Climatic Treatment of Tuberculosis, With Special Reference to Colorado"—Dr. C. L. Wheaton, Chicago.

"Mixed Infection in Tuberculosis, With Some Consideration as to Treatment"—Dr. Ethan A. Gray, Chicago.

"The Tuberculosis Problem in Illinois"—Dr. Homer M. Thomas, Chicago.

The discussion on these papers was participated in by Drs. J. J. Tremblay, Moline; J. W. Pettit, Ottawa; E. J. Brown, Decatur, and S. M. McClanahan, and was closed by the essayists.

Dr. Ralph R. Campbell, of Chicago, contributed a paper entitled, "The Consideration of Late Hereditary Syphilis," and Dr. W. J. Butler, Chicago, followed with a paper entitled, "Cerebral Hereditary Syphilis."

These papers were discussed by Drs. H. T. Patrick and J. H. Hess, of Chicago.

Dr. Geo. F. Butler, Chicago, followed with a paper on "Respiratory Oxidation Stimulants in Nephritis; Pulmonary and Allied Crises."

Dr. R. W. Webster, of Chicago, read a paper entitled, "Some Phases of Disturbed Metabolism in Nephritis."

The papers by Drs. Butler and Webster were discussed by Drs. Orrin, Lewistown, and Wm. F. Waugh, Chicago.

Dr. F. C. Vandervort, Bloomington, contributed a paper entitled, "Poisoning From Oil of Wintergreen."

Dr. Richard J. Tivnen, Chicago, read a

paper entitled, "Some Eye Problems the General Practitioner is Called on to Solve."

The section then adjourned to meet at 9:00 o'clock the following morning.

THIRD DAY—MORNING SESSION.

The section was called to order by the Chairman, Dr. Marcy, at 9:00 o'clock.

The Nominating Committee reported as follows:

Chairman—Dr. J. H. Stowell, Chicago.

Secretary—Dr. H. W. Whitten, Peoria.

On motion, the report was accepted, and the Secretary instructed to cast the unanimous ballot of the section for the officers named, which he did.

Owing to a misunderstanding, a paper by Dr. J. C. Cook, Chicago, was left off the program. On motion, the paper was placed last on the list of papers to be read.

Dr. Chas. D. Center, Quincy, then read a paper entitled, "Educational Treatment of Neurasthenics."

The discussion was opened by Dr. Thos. J. Watkins, Chicago, continued by Dr. Jos. L. Miller, Chicago, and closed by the essayist.

Dr. Jos. L. Miller, Chicago, contributed a paper entitled, "Febrile Symptoms of Hepatic Syphilis, With a Report of Cases."

This paper was discussed by Drs. W. J. Butler and J. A. Capps, Chicago; Dr. E. J. Brown, Decatur, and closed by the essayist.

Dr. Frank Smith, Urbana, read a paper on "Intestinal Parasites."

Dr. S. M. Miller, Peoria, contributed a paper entitled, "Pulmonary Edema Following Throacentesis, With Report of a Case."

Dr. J. A. Capps, Chicago, read a paper on "X-Ray in Lukemia," which was discussed by Dr. E. J. Brown, Decatur, and, in closing, by Dr. Capps.

The following papers were read by title:

"Parenchymatous Keratitis and Subsequent Irido-Choroiditis, With Loss of Vision"—Dr. Chas. H. Brobst, Peoria.

"Air Examinations; Their Importance and Results"—Dr. A. Gehrman, Chicago.

"Pneumonia in Children"—Dr. J. C. Cook, Chicago.

On motion the section adjourned sine die.

M. L. MARCY, *Chairman*.

FRED C. ZAPFFE, *Secretary*.

MINUTES OF SECTION TWO.

MAY 16, 1905—FIRST SESSION.

Chairman—Dr. George L. Eyster, Rock Island.

Secretary—Dr. William H. Wilder, Chicago.

The Section was called to order by the Chairman.

Dr. Fernand Henrotin, of Chicago, delivered the Address of Section Two. He selected for his subject: "The Commerce of Surgery."

The next order was a symposium on surgery of the stomach.

Dr. Arthur Dean Bevan, of Chicago, read a paper entitled, "Surgery of the Stomach."

Dr. Carl E. Black, of Jacksonville, read a paper on "Surgery of the Bile Tracts."

Dr. Emerson M. Sutton, of Peoria, read a paper on "Surgery of the Duodenum."

Dr. M. L. Harris, of Chicago, followed with a paper on "The Surgical Treatment of Injuries of the Spleen due to Subcutaneous Penetrating Wounds; the Value of Splenectomy in Certain Anemias Associated With Enlargement of the Spleen."

The discussion on this symposium was opened by Dr. Edward H. Ochsner, and continued by Drs. Neff, Kreider, Christie, Plummer, Stealy, Harris, Markley, and the discussion closed by Drs. Bevan and Black.

Dr. Wm. E. Guthrie, of Bloomington, read a paper entitled, "Surgical Tuberculosis."

Dr. Robert J. Christie, of Quincy, read a paper on "Tubercular Nephritis; a Review of the Literature and Report of a Case."

These two papers were discussed jointly by Drs. Ridlon, Allaben, Kreider, Neff, and the discussion closed by the essayists.

On motion, the Section adjourned until 2:00 o'clock. P. M.

SECOND SESSION.

The Section was called to order at 2:00 P. M.

Dr. Fernand Henrotin, of Chicago, read a paper entitled, "Practical Remarks Concerning When and How to Treat Septic Pelvic Infections of Women by Vaginal Incision and Drainage."

Discussed by Drs. Henry F. Lewis, Sutton, and in closing, by the essayist.

Dr. Henry F. Lewis, of Chicago, read a paper on "Malignancy in Uterine Myomata."

Dr. S. C. Plummer, of Chicago, read a paper in which he reported four cases, as follows:

1. "Stricture of the Esophagus Following Typhoid Fever."
2. "Colloid Carcinoma of the Cecum."
3. "Penetrating Wound of the Liver."
4. "Gastroenteroptosis."

These cases were discussed by Drs. Markley, Harsha, and in closing by the essayist.

Dr. Clifford U. Collins, of Peoria, read a paper on "Some Errors in the Diagnosis of Abdominal Troubles," which was discussed by Drs. Markley, Plummer, Harsha, Denslow Lewis, and the discussion closed by the essayist.

Adjourned.

MAY 17, 1905—THIRD SESSION.

The Section met at 9:00 A. M., and was called to order by the Chairman.

The first order was a symposium on surgery of the nervous system, and papers were read as follows:

"Diagnosis and Pathology of Neoplasms of the Brain"—Dr. Hugh T. Patrick, of Chicago.

"Pathology and Diagnosis of Lesions of the Spinal Cord and Peripheral Nerves"—Dr. Frank P. Norbury, of Jacksonville.

Discussed by Drs. Loring, Harris, Frank, Sutton, Ryerson, and the discussion closed by Drs. Patrick and Norbury.

Symposium on lacerations of the obstetrical canal resulting from obstetrical injuries.

Papers were read as follows:

"Diagnosis and Treatment of Rupture of

the Uterus," by Dr. George Schmauch, of Chicago.

"Lacerations of the Vaginal Portions of the Uterus and Fornix Vagina," by Dr. L. H. Nickerson, of Quincy.

"Diagnosis and Treatment of Lacerations of the Vaginal Body and of the Perineal Region, Including the Pelvic Diaphragm"—Dr. C. S. Bacon, of Chicago.

This symposium was discussed by Drs. Watkins, Newman, Harris, Denslow Lewis, Sutton, and the discussion closed by Drs. Nickerson and Bacon.

At this juncture Dr. Watkins moved that the Chairman appoint a Nominating Committee to select officers for the Section for the ensuing year. Carried.

The Chairman said he would appoint a committee later.

Dr. T. J. Watkins, of Chicago, then read a paper entitled, "Pelvic Infections in Women," which was discussed by Drs. Christie, Allaben, Denslow Lewis, Bacon, Markley, Schmauch, and in closing, by the essayist.

The Chairman appointed as a committee to nominate officers for the Section, Drs. C. S. Bacon, Emerson M. Sutton, and L. H. Nickerson, to report at four o'clock in the afternoon.

On motion the Section adjourned until 2:00 o'clock P. M.

FOURTH SESSION.

The Section was called to order at 2:10 P. M..

Dr. P. L. Markley, of Rockford, read a paper entitled, "Inversion of the Uterus, With a Report of Cases."

Dr. J. H. Hess, of Chicago, read a paper entitled, "Intussusception in Infancy and Childhood, With Collection of 1,028 Cases, With Statistics."

This paper was discussed by Drs. Oschner, Christie, and in closing, by the essayist.

Drs. John Ridlon and Chas. E. Eikenbary, of Chicago, read a joint paper entitled, "Congenital Club-Foot," which was discussed by Dr. Ryerson, and the discussion closed by the essayist, Dr. Ridlon.

Dr. Alfred Schalek, of Chicago, read a paper on "Prophylaxis of Syphilis."

Dr. E. Mammen, of Bloomington, followed with a paper on "Insanity Following Skull Injuries."

Dr. Norval H. Pierce, of Chicago, read a paper on "Cerebral Infection From Middle Ear Disease."

The Committee on Nominations recommended as officers of the Section for the ensuing year the following:

Chairman—Dr. Robert J. Christie, of Quincy.

Secretary—Dr. S. C. Plummer, of Chicago.

On motion, the report of the Committee was adopted.

Dr. E. Wyllys Andrews, of Chicago, read a paper on "Perigastric Adhesions After Gall-Stone Operations, Their Surgical Importance, and a New Operation for Their Relief."

Discussed by Drs. Percy, Allaben, and in closing, by the essayist.

Dr. George E. Shambaugh, of Chicago, read a paper entitled, "The Indications for Opening the Mastoid Process in Cases of Empyema of the Cells Following Acute Otitis Media, When There is an Absence of Signs Over the External Surface of the Mastoid."

Discussed by Drs. Ballenger, Percy, and in closing, by the essayist.

On motion the Section adjourned until Thursday, at 9:00 A. M.

MAY 18, 1905—FIFTH SESSION.

The Section was called to order by the Chairman at 9:30 A. M.

Dr. J. Brown Loring, of Chicago, read a paper entitled, "Are Cases Demanding Removal of the Eye Interesting to the Surgeon and Physician?"

Discussed by Drs. Dodd, Wilder, and in closing, by the essayist.

Dr. John C. Hancock, of East Dubuque, read a paper entitled, "The Value and Place of Duodeno-Choledochotomy in Gall-Stone Surgery."

Dr. E. Fletcher Ingals of Chicago, read

a paper on "Bronchoscopy for the Removal of Foreign Bodies From the Air Passages."

Discussed by Dr. Frank, and in closing by the essayist.

Dr. S. P. Hopkins, of Springfield, read a paper entitled, "Tuberous Subchorial Hematomata of the Decidua," which was discussed by Dr. Frank, and in closing, by the essayist.

Dr. James W. Twitchell, of Belleville, reported a case of "Perforating Gunshot Wound of the Intestine, With Recovery, Without Surgical Intervention."

On motion, the Section adjourned *sine die*.

ILLINOIS STATE MEDICAL SOCIETY
OFFICIAL TRANSACTIONS
FOR 1905.

The House of Delegates in session at Rock Island, May 16, 1905, at 2:00 P. M. President William E. Quine presiding, and Secretary Weis read the roll of counties. There being a quorum present the House proceeded to business.

The first order of business being the presentation of reports.

Councilor Ensign, Chairman of the Council, read his report of the work done by the Council and Councilors during the past year, as follows:

ANNUAL REPORT OF THE COUNCIL FOR 1905.

The Council of the Illinois State Medical Society begs leave to herewith submit its annual report to the House of Delegates, in compliance with the mandate of Section 1, Chapter VIII, of the Society's by-laws, and in full conformity, as well, to the requirements of Section 5, of the same chapter.

ORGANIZATION OF THE COUNCIL.

The first section above referred to, directs that the council "shall meet on the last day of the annual session of the society, to outline work for the ensuing year. It shall elect a chairman and a clerk, who, in the absence of the secretary of the society, shall keep a record of its proceedings." In compliance therewith, the council met at Bloomington on May 19, 1904, and chose the undersigned chairman and Dr. Carl E. Black, of Jacksonville, clerk for the period named.

A decision of the chairman of the State

Medical Society, rendered in the House of Delegates, at the last annual meeting, declared that, "owing to the redistricting of the State into councilor districts," it became necessary to order "that there be an election of councilors in every councilor district except No. 3. Such election having taken place accordingly in the House of Delegates, the Council was again, within the period of a single year, called upon to adjust the relative terms of the councilors, save the one exception named; a matter which was finally determined by lot, but, owing to the absence at the preliminary meeting of several of the councilors elect, it was not accomplished until the meeting of the following July, at which time it resulted as follows:

FOR ONE YEAR, DOCTORS—

J. H. Stealy, Freeport, 1st District.

W. O. Ensign, Rutland, 2d District.

W. K. Newcomb, Champaign, 8th District.

FOR TWO YEARS, DOCTORS—

M. L. Harris, Chicago, 3d District.

C. E. Black, Jacksonville, 6th District.

J. T. McAnally, Carbondale, 9th District.

FOR THREE YEARS, DOCTORS—

O. B. Will, Peoria, 4th District.

J. W. Smith, Bloomington, 5th District.

E. E. Fyke, Centralia, 7th District.

Dr. Geo. N. Kreider having tendered his resignation as editor of the *Journal*, it was accepted by the Council. He was then requested, however, to continue in the discharge of the duties of such office until a successor had been chosen, with which request he consented to comply.

Much work, including the reception of appeals from Dr. H. Preston Pratt, of Chicago, and Dr. Wm. L. Rabe of Dwight, presented during the period of the annual session of the State Society at Bloomington, was outlined for future consideration. After assigning the next quarterly meeting, as a date on which to hear the aforesaid appeals, the council adjourned to meet in Chicago on the first Thursday in July, 1904.

COUNCIL MEETINGS.

Three regular quarterly meetings only were held during the past year, the fourth, or that of April, 1905, being omitted in order to curtail, as far as possible, the annual

expenses of the Society. This, however, necessitated the calling of a special meeting on the 15th of May, the date immediately preceeding the opening of the present session of the State Society, in order to transact the large amount of business that always demands attention in connection with the closing duties of the year. It was likewise sought to call a special meeting to consider the report of the joint conference of the Chicago Medical Society and the Council, relative to recommendations made concerning the interests of the *Journal*, of which a more extended account will be later given. Such consideration, however, it was decided to postpone until its January meeting and thus, again curtail the otherwise possible expenses of the Society.

APPEALS AND GRIEVANCES.

In the annual report of a year since, it was stated, (see page 176, vol. VI, *Journal*), that "no questions of discipline of members or appeals, save one or two of the latter, too late for consideration before the annual meeting," had arisen during the year. As an outcome of the exceptions named, two cases of appeal were promptly pressed upon the attention of the council, at its preliminary meeting in May, 1904, viz.:

Appeal No. 1: Wm. L. Rabe, M. D., of Dwight vs. Livingston County Medical Society.

This case was an appeal of Dr. Wm. L. Rabe, from the action of a component Medical Society, in expelling him from membership therein; and constitutes the first case of appeal to be considered in this Society, not only under the law of 1903, but at least for very many years prior to such law's enactment. It was first presented to the council on May 17th, 1904, during the session of the State Medical Society of last year, and hence, could not have been then given proper time for a careful hearing previous to the close of such session. It was received, on presentation, and the Secretary was instructed to inform both the appellant and the Livingston County Medical Society of such fact, and that, at a future time, each would be given due notice of the date to be set for a hearing. At the preliminary meet-

ing of May, 1904, it was voted to hear the appeal of Dr. Rabe, at the quarterly meeting of the Council to be held in Chicago, on the 7th of the following July, and the secretary was instructed to notify each of the interested parties to appear at such time. On the date named Dr. Rabe appeared before the Council, both in person and by Mr. A. C. Norton as his attorney. It was acknowledged by the appellant, that he had been indicted by the Livingston County Court for selling liquor in violation of law, on account of which he had paid a fine of \$500. In mitigation of his conduct, he presented to the Council a number of undated and indefinite orders from individuals for liquor, which he admitted he had filled from time to time, but which orders his attorney appeared to hold to be doubtless forgeries. On detailing the various amounts of wine, gin, whisky and brandy made use of in his practice as a physician, he admitted to the disposal of a total amount of several barrels during a single year. On the other hand, copies of the court records of Livingston County, relative to the appellant's case, and of the transactions of the Livingston County Medical Society, concerning the consideration of charges against him and the action of such Society had thereon, were duly presented. These fully confirmed the fact of the court having received a fine from the appellant, and likewise that the Medical Society had duly tried and expelled him from its membership, all of which clearly indicated that he was guilty as alleged, and that there was no occasion to disturb the action of the local component Society in its disposition of the case.

In view therefore, of all the facts presented to the council, it was unanimously held that "the matter is wholly within the jurisdiction of the Livingston County Medical Society, and that the Council has no other recommendations in relation thereto:" thus we believe practically and justly confirming the action of the Livingston County Medical Society in the case.

Appeal No. 2: H. Preston Pratt, M. D., of Chicago vs. The Chicago Medical Society.

This case was originally presented as a communication from Dr. Pratt to the Secretary of the Illinois State Medical Society, complaining of the action of the Secretary, in notifying the writer of the communication that his name had been dropped from the roll of membership of such Society.

On the presentation of such communication to the Council, on May 16, 1904, and this likewise during the annual session of the State Society, it was ordered placed on file, and the Secretary instructed to advise Dr. Pratt to refer his complaint to the Chicago Medical Society, which constituted his local affiliating organization. At the preliminary meeting of the Council of May 19, 1904, the matter was again presented in the form of a second communication from Dr. Pratt, relative to his own standing in the Illinois State Medical Society, in which communication, he announced the reception of a notice from the Secretary of the Chicago Medical Society, stating that his (Dr. Pratt's) application for membership had been rejected. From the action of such Society, he desired to take an appeal, and requested an opportunity to defend himself from false statements which, he claimed, had been made against him. He also enclosed a check of \$2.00 in payment of his dues, which dues the Secretary of the State Society declined to receive. The Secretary was instructed by the Council to return the check to Dr. Pratt, and notify him that his appeal had been received, and that he would be given due notice of the date on which a hearing of his appeal would be granted. Subsequently it was voted to make such date July 7, 1904, and the place to be at the quarterly meeting of the Council, then to be held in Chicago. Due notice of such hearing was likewise to be given to the Chicago Medical Society.

Thus it will be seen that this case finally came to be, as stated at the outset, an appeal, and from the action of the Chicago Medical Society in denying the application of the appellant for membership therein. On the date set for a hearing, Dr. Pratt appeared before the Council, both in person and by Mr. Young as his attorney. Dr. Pratt

claimed previous membership in the Illinois State Medical Society from which he had at no time been expelled. Mr. Young then made some statements of his own views in the case, and presented several provisions of a legal character which he believed to bear upon it.

Dr. F. X. Walls, Secretary of the Chicago Medical Society, on its behalf then gave a detailed account of the reception, by such society, of the application of Dr. Pratt, during which account it was stated, that it was a law of the Chicago Society that a member, who might feel aggrieved at the action of its Council, may appeal to such Society at large. It appearing that no such appeal had ever been taken by Dr. Pratt, and on his own consent to first make such an appeal in accordance with the law of such Society, it was unanimously voted by the Council, "that the appeal of Dr. Pratt be referred back to the Chicago Medical Society, with the request that it hear such appeal when presented."

Owing to the want of a clear understanding of the provisions of the law of 1903, relative to the later method of the payment of yearly dues, many members who, under the previous regulations of the Society had been in the past accustomed to paying such dues at the annual session of the State Society, again besought the Secretary to accept them, during the last annual meeting held at Bloomington. In view of the brief period only in which the new law had then been in force, the Council deemed it advisable to permit their reception, and therefore instructed that officer to receive such proffered dues during the annual session of that year, "conditioned upon reporting the same to the local county societies." As a result of such action, a complaint was later made to the Council, by the Peoria Medical Society, in the form of a resolution objecting to "the reception of dues at the annual meetings of the State Society, for the purpose of allowing members to register." Believing that such society misunderstood the circumstances attending the temporary authority given to the Secretary, to receive dues at such annual meeting otherwise than through the component societies, the matter was placed in the hands of

the Councilor of the 4th District, who subsequently made satisfactory explanations to the aggrieved Society.

Complaint having been made of the manifestly improper practice of some essayists, in giving out their manuscripts, or copies thereof, to other publications than the Journal of this Society, in advance of such paper's publication in the latter, the Council adopted the following resolution: "It is the sense of the Council that Section 2, Chapter XI, of the by-laws of this Society be interpreted as follows: 'No paper shall be read at the annual meetings of the State Society, or be published in the transactions, except on the assurance of the writer of the paper, that the manuscript shall not be offered to any other publication, until the paper has appeared in the Illinois Medical Journal.'" In this connection it should not be forgotten that the Council is invested with no authority to make laws for the Society, although it may be called upon, during the interval between annual meetings at least, to interpret such as the House of Delegates may have seen fit to enact.

Under the laws governing the issue of volumes of transactions in the past, permission was very reasonably given authors to publish papers elsewhere, on due acknowledgement being made, of their original source, to such Society's transactions. When however, the State Society, under a law that gives no authority whatever for such advance publication of papers elsewhere, enters upon the publication of a Journal of its own, for members to give out to other publications, in advance of their issue in such journal, papers read or printed on the programs of the Society, is not only a breach of good faith and the just rights of the Society, (see Sec. 2, Art. XI. Const. which makes such paper its property,) but it is an act otherwise so reprehensible in itself, as to justify the charge of disloyalty to the Society and its interests, and to be held worthy the author's exclusion from a future participation in the exercises of the Society or a place on its programs, at least until a due and proper apology shall have been made.

COMMITTEE ON ARRANGEMENTS.

For many years at least it has been the custom of the Committee of, or on, Arrangements, as variously styled by the different codes of law put forth from time to time by the Illinois State Medical Society, to make a complete report of its transactions and to turn over to the Society any surplus which might have arisen out of the discharge of the duties which it had been called upon to perform.

Through a misunderstanding of the true relationship of such committee as to its responsibility both to the State Medical Society and to the local society appointing its membership, the report of the Committee on Arrangements of 1904 has been greatly delayed.

However, a final and amicable adjustment of the matter has been reached, but with the result that little income from such source will have been received the past year.

THE JOURNAL.

Perhaps no single topic, on which the Council is called upon to make a report at this time, can rightfully claim more of the interest of the membership of the Society, than that of the Journal. It is jointly the property of all the members, each of whom may be truthfully said to be a personal stockholder in the enterprise of providing for its publication and conducting its issue.

As previously mentioned, Dr. Geo. N. Kreider, who had filled the editorial chair from its early publication, tendered his resignation at the close of the last annual session of the State Society, and such was accepted by the Council; but upon its request, he consented to continue temporarily in his former position, until a successor could be provided. This relationship he maintained until the quarterly meeting of the Council in July, 1904, when, on a vote of confidence and satisfaction on the part of that body, coupled with a request that he resume his former position as editor of the Journal, he consented to again accept such responsibility. The Committee on the management of the Journal, sometimes called the Journal committee, consisting of Drs.

Black, Harris and Will of the Council was continued, and it was "given discretionary power to use its own best judgment in furthering and enhancing the interests of the Journal during the interim of the Council meetings." It was likewise authorized to pay a solicitor a share (50% if necessary) of all monies collected for subscriptions to the Journal and membership in the State Society.

The Council voted that henceforth "the Journal shall be sent only to actual members, subscribers, advertisers, exchanges and for advertising purposes." A settlement with the former advertising agent was secured by the committee and the balance of his claim liquidated. The subscription price was reduced to \$2.00 per annum such reduction to begin with the year 1905; and the beginning of the fiscal year of such Journal was established co-existent therewith. The publication heretofore having been supplied to many others than actual members of the Society, for reasons already given in the former report of the Council for 1904, (see page 177, vol. VI, Jour.), and many persons who had received its issues, having from time to time sought the privilege of paying the price of its subscription, although not actual subscribers themselves, the editor was permitted to send out statements to such non-subscribers to whom it had been supplied. This permission was coupled, however, with the provision that the payment of the amounts of the several statements was not to be understood as necessarily obligatory on the part of the recipient of the Journal.

The discharge of such duty by the editor met with but occasional objection, and this generally through a misunderstanding of its intent and purpose, while on the other hand it disclosed several instances of imperfections in the proper delivery of the publication to parties to whom it had been addressed, and likewise secured \$519.98 for the treasury of the Society, each an item of much importance and advantage to the organization.

The Journal properly belongs to the entire State Society rather than to any fractional

part of it alone, therefore it should be conducted in the interest of the whole State and not of any particular locality. It is the preferences of the entire membership of the Society which should be sought and served, as nearly as it may be possible so to do, in directing its publication. To obtain a clear understanding of such interests and the wishes of the entire membership of the State Society, and then to conduct the Journal in accordance therewith, is the sole aim, purpose and desire of your Council.

Several societies, during the past year, have expressed their approval of the present character and conduct of that publication, while in a single instance, so far as we now have knowledge, there has been an announcement of a society's council indicating a want of satisfaction on the part of the membership of such council at least. It would be far better and materially aid the Council, in the direction of its efforts to meet the wishes of the membership, if all the component societies would speak out and give their views and desires as to the conduct of the Journal, directly to the Council, for its guidance in the discharge of its duties. The question of the Journal's interests and welfare should be an ever present one before the mind of each member, who values the publication and desires its improvement and success.

The consideration of this question, by the Chicago Medical Society during the year just passed, resulted in bringing to the attention of the Council, by communications and through the presentation of the subject at the quarterly meeting held in Chicago, on October 6, 1904, by the President and Secretary of such Society, and their request, on its behalf for the appointment of a committee by the Council to confer with a like committee from the Chicago Society, which committees were to jointly meet and consider the question of the interests of the Journal. Such request was promptly granted and the members of the Journal committee of the Council, consisting of Drs. Black, Harris and Will, were duly appointed. Such joint committee, including Drs. Billings, Evans and Doherty, members for the Chicago Medical

Society, (Dr. Doherty being absent, but other members of that society present), met in Chicago on Nov. 1, 1904, and after much discussion formulated the following recommendations to the Council:

First.—That the Journal be removed to Chicago January 1, 1905.

Second.—That an editor or assistant editor and general manager, be hired, who shall devote his entire time and energy to the Journal.

Third.—That Dr. F. R. Green, of Chicago, be employed in the above capacity.

The representatives of the Chicago Society having expressed a desire that a special meeting of the Council be held to take prompt action on such recommendations, the Councilors were consulted as to the advisability of holding such special meeting of the Council for the purpose named, with a negative result. The recommendations were therefore later considered, at the regular quarterly meeting of the Council of January 5, 1905, at which time they were fully discussed by the members in attendance and by Dr. Doherty, then present, on behalf of the Chicago Medical Society.

It was then voted that "the question of printing the Journal and employing an assistant editor in Chicago be amended as follows: That the Committee on the Management of the Journal be instructed to immediately consider the advisability and feasibility of opening an office in Chicago, and employing an assistant editor or business manager, in charge of such office; also, to open negotiations with the Journal of the American Medical Association for the printing of the Journal." Likewise to amend the third recommendation so "that the name of Dr. F. R. Green, as assistant editor, be referred to the Committee on the Management of the Journal for consideration." With the suggested amendments, the recommendations as a whole were adopted. Since their adoption, such amended recommendations have been placed in the hands of the Journal Committee of the Council, by which they have been put in process of introduction, as rapidly as circumstances would permit, and doubtless in due time their trial will be sufficiently

extensive to afford some evidence on which to base a just estimate of their character and value.

The general progress of the Journal, however, has been steadily forward and upward, as has been shown since the report of a year ago, in the increase of the amount and the character of the material supplied to its columns, in the favorable notices received at the hands of other publications, in the number of its articles listed by others for review, in the number and distribution of its subscribers now found in nearly every State of the Union, in its creditable character and in its general value and usefulness to this Society, and the profession of the State.

There have been printed during the year 1,260 pages of reading matter, a gain of nearly 33 per cent over a year since, 20 pages of index and 278 pages of advertising, constituting a total of 1,552 pages issued. The price paid per page for printing has been \$2.57, the income from advertising has been \$2,531.50, and the expenses of issue nearly as follows:

Printing Journal.....	\$4,342 60
Postage	205 73
Cuts	172 85
Miscellaneous	116 70
Stationery	49 25
Express	62
Total	\$4,887 75

This estimate, however, does not show the entire cost of the publicaion, as it includes neither the salary of the editor nor the expenses of his office. The general office expenses have been:

Typewriter, desk and chair.....	\$16 06
Typewriter repairs	4 00
Stenographer	349 25
Telephone and telegraph.....	15 50
Stamps and express	90 00
Stationery	12 15
Cuts, Koch and art supplement..	19 11
*Advertising agent	200 00
*Journal Co.	100 00
Total	\$806 07

*Not properly office expenses but available funds were in hand to meet them.

The editorial office received from—

221 subscribers	\$519 98
Copies of mailing list, journals, etc	30 35
Advertisements, etc'.....	130 50
Total	\$680 83

Strenuous efforts have been made and several plans adopted, from time to time, to largely increase the income from advertising. Although such efforts have by no means been in vain, the resulting amount is not yet what is desired or it may be expected eventually to secure. During the very brief period in which Dr. Green has represented the Journal, he has shown commendable energy and has so far met with a fair share of success.

The cost of publishing the Journal has been a matter of much importance and solicitude. Bids for its future printing were solicited, early in the year, from other firms in Springfield than the present publishers, the Illinois Journal Printing Co. of that city, also from Chicago, Bloomington, Galesburg, and Decatur, with the result that one only, the Journal of the American Medical Association, underbid the present publishers. Accordingly a contract was sought with the lowest bidder. Owing to being then engaged in rebuilding and a consequently overcrowded condition of its office, it was unable to undertake the work for the present at least. Nothing therefore remained but to continue as before.

Thus it has often been found necessary to make haste slowly, even in the conduct of the Journal whose rapid progress we all so much desire. Notwithstanding various hindrances, its growth, we may feel certain, has been a steady, reliable and substantial one, and, from present indications, we may believe that the time is not far distant when the question of a more frequent issue of its numbers may be forcibly pressed upon your attention.

The following report of the special committee of the Council on Management of the Journal, having been delayed until near the close of the annual session of 1905, was sent direct to the House of Delegates, by which

it was considered and ordered published here-with:

"To the Chairman and Members of the Council:

"Your Committee on Journal would respectfully submit the following report: The Journal has been printed in Springfield by the Illinois State Journal Company. 1260 pages of reading matter have been published and 280 pages of advertising at a cost of about \$2.57 per page. Postage has been about \$200.00 and cuts about \$170.00, making the total cost of the Journal, outside of the salaries of the editor and business manager, about \$4,900.00. The net cost of the Journal per member to the Society has been less than 50 cents.

"Your committee has fully realized that our Journal should be published in an office devoted exclusively to the publication of medical matter, and to this end we have made numerous efforts during the year to secure better publication facilities. We are sorry to report that these efforts have not been successful, notwithstanding the fact that in January we had a proposition from the Journal of the American Medical Association for printing our Journal. Just at about the time this proposition was about to be consummated the trustees of the American Medical Association decided to enlarge their building in Chicago, and for this reason they were forced to notify us that at present they could not undertake the printing of the Journal. This was a great disappointment to your committee, but we have assurances that within the next three months we will be able to consummate this arrangement.

"Several arrangements were made from time to time by your committee and by the editor looking toward the increasing of our advertising patronage. The chairman of your committee has, during the year, had correspondence with five or six hundred prospective advertisers for the purpose of interesting them in the Journal as an advertising medium.

"In March, we arranged with Dr. F. R. Green, of Chicago, to take entire charge of the soliciting of advertising, and since that time this part of the work has been entirely

in his hands, with such assistance as the editor and chairman of the committee were able to give. After consultation with the members of the Chicago Medical Society, which numbers about one-third of the membership of the State Society, it was decided to also make Dr. Green assistant editor, to have charge of the Chicago material which appeared in the Journal, and since March he has had charge of this department also.

"Dr. Green is very highly recommended by the most active members of the Chicago Medical Society, and we believe his work will be greatly to the advantage of the Journal.

"While the increase in advertising has not been as large as we had hoped, still it has been substantial, and the prospects for the near future are considerably better than they were a year ago on account of the voluminous correspondence which has been had with prospective advertisers. The report of the editor (to the Council) will take these matters up in detail.

"Before closing this report, however, there is one matter which your committee thinks should be placed before the House of Delegates. Almost ever since the Journal was issued there has been a wide difference of views among members of the Society as to the field of journalism which it should occupy.

"During the first two years of its life it was simply considered as a monthly publication instead of the old annual book of transactions. You all know how this original plan has gradually extended. During these years the profession has divided itself into three very well marked groups on this subject.

"The first group seems to believe that the Journal should publish the papers presented at the State Society, the minutes of the meetings, and further than that should only be a bulletin of the State Society, giving such information as would be of interest regarding component societies and keep the members informed on State Society matters.

"The second group, and probably the largest and strongest group, believes that the Journal should, in addition to publishing the

papers and transactions of the State Society, also publish, as far as practicable, the worthy papers and the transactions of the various component societies of the State, and also publish everything which could be of interest to the physicians of Illinois.

"The third group, led by some of the best men in the State, principally resident in Chicago, believes that the Journal should be made in every sense a 'medical journal' of the highest order, especially devoted to the publication of the original material of the physicians of Illinois, but not confined to those of Illinois. They based their conclusions on the fact that there is a demand for a great journal in the Northwest, and that said journal should be located in Chicago, and they believe that the Illinois Medical Journal, with the substantial backing of over four thousand physicians of Illinois, should be made such a journal, laid out on the broadest line and giving to the physicians of the Northwest not only the work of the physicians of the Illinois State Medical Society, but all that is best in progressive medicine.

"It is only fair to state that your committee is not entirely a unit on the various propositions. We believe that they should be laid fairly and frankly before the House of Delegates in order that they may have an opportunity to discuss them and give to the Council any instruction which they may deem advisable along these lines.

"In the main your committee would recommend that the Journal be devoted to the publication of material from the members of the Illinois State Medical Society, but that worthy papers from component societies be published as far as our means will admit. We also believe that it is of great value to publish news; matters relating to members of the profession in this State, and in fact that all matters of interest to the profession of the State should have a place in the Journal as far as within our means."

Respectfully submitted,

(Signed)

CARL E. BLACK.

M. L. HARRIS.

O. B. WILL.

Committee on Management of the Journal.

COUNCILOR DUTIES.

Concerning the performance of many of the duties on which the Council is required to report, mention will be found elsewhere and under other heads than the above, while a few items remain to be here more appropriately presented.

The bonds of the Treasurer and Secretary for the current year were fixed at \$2,000.00 each, and both amounts were furnished by the Fidelity Safety Deposit Co. of Maryland, at a total expense of \$20 to the State Society.

The substitution, in 1904, of the word "Council" for "House of Delegates" in section 2, chapter VIII of the by-laws, placed upon the former body a duty hitherto required of the latter, viz., that of receiving the individual reports of the Councilors. Under the former arrangement, each report was to be made directly to the legislative body as a final report. As a result of such change, it might now appear to be very appropriate for the Council to embody a summary of the Councilor returns in its annual report to the House of Delegates. The law still provides as before that the Councilor "shall make an annual report of his work, and the condition of the profession of each county in his district." Many other items of interest and value in such reports would now appear to be all the more desirable, in order to secure the necessary information from which to prepare a more complete annual report to the House of Delegates, and at the same time to obtain facts which, when properly summarized, might afford valuable information and data as to the Society's work and progress, for comparison and preservation. Accordingly, in issuing a call for the Councilor reports, suggestion was given to Councilors to mention several additional items to those indicated as lawfully required in such reports. The result has been to show so much neglect on the part of many component society secretaries, and such want of uniformity in the reports received by the Councilors, that their own reports, based upon such imperfect data, were found to be scarcely available at this time for the purposes of either successful comparison or reliable tabulation.

These temporarily incomplete results, however, in no wise disprove the desirability or possibility of obtaining such information, while they most distinctly show that for the greater efficiency of Councilor reports and, as an aid to such officers' efforts, each Councilor should be supplied not only with properly arranged blanks for his own returns but as well with suitable and uniform aids on which to receive the reports of the component societies in his own district.

MEDICAL ORGANIZATION.

There yet remained at the date of the annual report of 1904, as then announced, ten counties without chartered medical organizations, viz., Boone, Franklin, Hamilton, Hardin, Jefferson, Lawrence, Monroe, Moultrie, Randolph and Woodford. (See page 177, Vol. VI., Jour.) Of these Woodford was granted a charter in October, 1904, and the issue of such documents, on application, was likewise authorized to Franklin, Jefferson and Monroe.

It now appears that Lawrence should have been included among the chartered counties in the former report of 1904. Franklin has not yet taken the charter authorized, but Moultrie is expected to soon seek admission. Although the Councilor for the Ninth district reports a dormant society in Randolph and a good one in Hamilton, neither, as yet, has applied to the Council for a charter. The unchartered counties therefore at this date include Boone, in the extreme northern part, and Franklin, Hamilton, Hardin, Moultrie and Randolph, in the southern half of the State, a total of six counties.

Most of these latter counties are in the Ninth district, which includes a very large territory of twenty-three counties, much larger than that of any other district. However, we believe that the Councilor for such district is the proper person for the position, that his service has been brief, that he has labored under greater difficulties than the others, and that he will eventually meet with entire success.

The reports of the Councilors of the various districts, while, as previously mentioned, are very incomplete, they clearly show that much progress has been already made, as well as that much more work yet remains to be performed, before the entire profession can be brought into a solid organization and kept constantly inspired with the necessary zeal to accomplish the most complete results possible to be attained.

The question of methods of promoting medical society work has not yet met with either the interest or attention the subject deserves. The secretary of the American Medical Association has kindly expressed a willingness to aid along this line, by publishing a list of secretaries of component societies as well as reciprocal programs for the use of medical organizations, also to furnish the same to the Secretary for mailing to local societies, free of cost, yet, so far, it is doubtful if these worthy propositions have met with the encouragement and application they so clearly deserve. It is to be hoped that their utility and advantage will soon be thoroughly demonstrated by their more frequent employment.

The State of Illinois is now approaching a complete enrollment of all its counties under the standard plan, and the very few remaining outside, it may be reasonably believed, will soon join with the others. As the time approaches, when the entire number shall have been included, it becomes our duty to devote more extended effort toward the improvement of the component societies themselves, a duty fully as important as that of securing their organization, and one affording an opportunity for the forceful exercise of no little energy, discretion and tact. In this work the varied experiences of others who have wrought along the same line, as well as all thoroughly digested plans for successfully promoting the interests and welfare of the local organizations, should be heartily welcomed and promptly put into operation, as desirable aids to their progress and to their attainment to greater usefulness and importance among the profession.

AMENDMENTS AND LEGISLATION.

The following recommendation is herewith submitted for the consideration of the House of Delegates: To add to the first sentence of Sec. 2, Chapt. XI, page 29, by-laws, the words: "And the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance, on the part of the writer, that such paper has not already appeared and will not appear in medical print before it has been published in the Illinois Medical Journal."

FINANCES.

The beginning of the fiscal year was, at the last annual session, established on the first day of each month of January. So far it has been practicable to apply this rule only to the annual volume and subscriptions of the Journal and to the annual dues. The desirability of having all financial computations of the Society brought down to the annual session must be clearly apparent to all, since in no other way can a single and complete report be presented on such occasions.

In this connection, it may be stated that the salary of the Secretary, for the year closing at the session of 1904, was made \$350 and that of the Treasurer \$50, while \$600 was awarded as salary to the editor of the Journal for a like period, making a sum total of \$1,000 paid out as honorariums.

There having been no surplus funds received from the previous year as heretofore, for reasons already explained, the Society has been practically dependent for its revenue upon the income derived from the annual dues received from its members, from subscriptions and from the advertisements placed in the Journal. Nevertheless we may all rejoice to know that the accumulated deficits of the past two years have been wiped out, thirteen monthly issues of the Journal provided for and yet an encouraging balance still remains to the credit of the Society.

The following statement is a copy of the annual report of the Treasurer which will show the present conditions up to May 18, 1905:

SUMMARY REPORT.
1904-1905.

RECEIPTS.		EXPENDITURES.	
1904.			
May 16, Balance....	\$1127 45	To Wm. Whitford..	\$ 221 05
From Chic'go Medical Society.....	1501 50	" Expense, Editor	73 73
From Dr. K., Subscriptions.....	200 00	" " Treas'r	15 00
From Advertisements.....	2531 50	" " Sec'y..	289 20
From E. W. Weis..	2817 25	" Discount and Exchange..	7 08
		" Printing.....	56 50
		" Journal Bills....	4887 75
		" Rebates.....	6 50
		" Honorariums....	1000 00
		" Commissions....	287 50
		" Judicial Council	629 95
		Balance in Bank	703 44
	\$8177 70		\$8177 70

PROPERTY.

The accounts of the Secretary, Treasurer and editor have been duly audited for the year about to close and found correct, and an inventory of the property of the Society, in the hands of each, is hereby submitted:

Of the Secretary—

1 seal.....	\$2 00
3 card cabinets with cards	190 00
1 register.....	10 00
1 minute book.....	2 50
Copies constitution and by-laws	15 00
1 set (incomplete) bound volumes Transactions.	

Total \$219 50

Of the Treasurer—

Card ledger and stationery	\$2 00	\$2 00
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Of the Editor—

1 postal scale.....	\$3 00
1 typewriter, desk and chair	16 06
1 map cut of Illinois...	10 00
1 seal of State Society..	2 00
Various cuts.....	
300 past issues of Journal	

Total \$31 06

Total property..... \$252 56

MISCELLANEOUS ITEMS.

The subjects of an analytical index of the Constitution and By-Laws of the State Society, and that of medical defense, each of which was presented in the report of 1904,

were then placed in the hands of special committees of the House of Delegates, which will doubtless report thereon at this session, hence they will require no further notice at the hands of the Council.

Appropriate sections of a card index system, relative to the introduction of which progress was reported a year since, have been generally supplied to all the component societies, or can be furnished on application to the Secretary. It only remains for each Society's secretary to promptly install such into its proper place and usefulness among the aids to the discharge of his official duties and as an addition to the helpful conveniences of his office.

It becoming known to the Council that efforts had been made in some instances to secure admission to the American Medical Association through other than component county medical societies, it was declared to be the sense of the Council that applicants for membership in such Association must be members of the county society in compliance with the law. This requirement can be readily seen to be but just to the county society, as well as in strict conformity to Sec. 5, Chapt. X, page 26, of the by-laws, which states, "such societies are the only portals to this Society and the American Medical Association."

The Committee on Arrangements of 1905 met with and entertained the Council at Rock Island on the occasion of the quarterly meeting held in January last, and its members afforded assurances of its true recognition of the fact that such committee was a duly appointed standing committee of the Illinois State Medical Society and, as such, it sought the views of the members of the Council in relation to the places selected for holding the exercises and to other plans and arrangements proposed by such committee, for the approaching annual meeting of the State Society to be held in that city.

IN CONCLUSION.

That there has been a generally progressive improvement in the condition of medical organization throughout the State of Illinois, as is fully attested by the Councilors of the various districts into which the State has

been divided, there can be no question. Less and less opposition has been met with, as a better understanding has been acquired of the advantages to be thereby attained, and further experience has been had with the working plans of a compact and united State organization. The entire medical profession of the State is steadily falling into line, and the near future is full of promise of as complete and satisfactory results as could have been primarily expected. Much effort, however, must needs be constantly exercised, in order to keep that line in step with the important advantages and extended opportunities to be secured, through united effort and a thoroughly active and well organized medical profession.

WM. O. ENSIGN.

Chairman Council.

It was moved by Black and seconded that the report as read be received. There was considerable discussion by the delegates relating to the features treated in said report. On the motion being put it was carried.

It was now moved and carried that the report as read be adopted.

Carl E. Black, Chairman of the Committee on Index of the Constitution and By-Laws, reported that he had the index now complete.

It was moved and carried that the report be received and adopted, and that the index be ordered printed after the adoption of amendments that will be presented at this meeting.

It was moved and seconded that the matter of furnishing blanks to the secretaries of the component societies upon which to make report to the Councilor of his district be referred to the Council for action. Carried.

Upon motion the House of Delegates adjourned to meet tomorrow afternoon at 2:00 o'clock.

The House of Delegates convened on Wednesday, May 17, 1905, at 2:00 P. M.

The House was declared in order by President Quine. Secretary Weis read the roll. A quorum present. The minutes of the previous meeting was read and approved.

Delegate Black read a telegram from the Dental Association requesting immediate ac-

tion on the part of the Illinois State Medical Society by telegraphing Governor Deneen requesting him to sign the dental bill now before him. On motion the same was ordered.

The amendment of section two, chapter eleven (page 29) as presented yesterday in Ensign's report, was on motion, seconded and adopted.

The following telegram was read by the Secretary:

"Excelsior Springs, Missouri, May 17, 1905.

William E. Quine, President, Rock Island.

The Missouri State Medical Association in convention assembled extends fraternal greetings and best wishes.

C. N. NICHOLSON, *Secretary.*"

To which the Secretary replied:

"The Illinois State Medical Society in convention assembled salutes its sister organization and bids it God-speed.

E. W. WEIS, *Secretary.*"

Secretary's action approved.

The special committee appointed at the last annual meeting to confer with the Illinois State Dental Society report as follows:

To the President and Members of the Illinois State Medical Society.

Gentlemen:

Your committee appointed to confer with the Illinois State Dental Society concerning mutual relationship beg leave to report as follows:

Correspondence between members of this committee revealed the fact that a joint meeting of our committee with the corresponding one from the State Dental Society would be impracticable during the year.

It also developed that co-operation with the State Dental Society is desirable—first and perhaps chiefly—for the purpose of mutual assistance in securing desirable legislation of interest to members of both societies and for the election of such men to our legislative bodies as are known to have reasonable views pertaining to Scientific Medicine, Surgery and Modern Dentistry.

Second—A better adjustment of ethical relations between practitioners of Medicine and of Dentistry.

Third—Mutual aid in maintaining a high

standard of professional training and education in the State.

The State Dental Society at its recent meeting continued a committee for the purpose of mutual co-operation, and we would therefore recommend that the Illinois State Medical Society also continue a committee for the same purpose in order that proper steps may be taken at any time should occasion require.

Respectfully submitted,

E. MAMMEN,

Chairman Committee.

It was moved and seconded that said report be received. Carried.

The report of the committee on the management of the Journal was here read, and on motion it was adopted.

It was now moved and seconded that this report be made a part of the report of Chairman Ensign of the Council. Carried.

It was now moved and seconded that the report *in toto* of Chairman Ensign be adopted.

The Committee on Medical Defense, by Kreider presented the following report:

To the President and House of Delegates of the Illinois State Medical Society:

Your committee to whom was referred the matter of providing for a Medico-Legal department of the Illinois State Medical Society would respectfully report that after some preliminary correspondence between the members of the committee, a meeting was called at Springfield, January 9, 1905. Those attending this meeting were Drs. W. A. Evans, Chicago, Chairman; E. J. Brown, Decatur, and G. N. Kreider, Springfield. Dr. Evans proposed certain changes to make the constitution effective on this subject.

It was moved and carried that the proposed changes should be printed in the Journal, and the matter brought to the attention of the county societies.

The Councilors who have brought this matter before the various societies as they have attended the meetings since the first of February report that every society without exception is enthusiastically interested in this

proposition. While no formal action has been taken by the societies it will be entirely safe, we believe, to adopt these amendments at this session of the society, and appoint a committee to further prosecute this subject. The Councilors believe that this arrangement will result in an accession of several hundred members to the State So-

informal statement regarding the committee of arrangements for 1904, and read from omitted portions of his report concerning the editors expenses and the finances of the Society.

Respectfully submitted,

Committee { EVANS,
MOYER,
KREIDER,
BROWN,
MITCHELL.

The changed amendment in the constitution and by-laws is as follows:

Article 10; substitute \$2.50 for \$2.00.

Amend Section one, Chapter nine, by adding after a "committee on public policy," "Medico Legal Committee," and further add to Chapter nine, Section six, as follows:

"To amend Article X of the constitution so that the line will read \$2.50 per capita instead of \$2.00, as at present."

"To amend Chapter XIV, Section I, by adding after the words, 'Shall be as follows,' the following, 'A Medico Legal Committee.'"

Also to amend Chapter IX, by adding Section 6, to read as follows:

"Section Six. The Medico Legal Committee shall consist of three members from Cook County and one member from each county other than Cook in the State. Its members to be chosen by the House of Delegates upon the recommendations of the County Medical Society, the term of service shall be three years; from this committee an executive committee of five shall be chosen. It shall be the duty of this Medico Legal Committee to carefully investigate suits or threatened suits against members of the State Society and in case the charges are ill founded or the damage asked is excessive, to lend the threatened member such council and aid as

is within its power. One dollar of each due paid shall be placed in a Medico Legal fund, which fund shall be managed by this committee subject to the approval of the House of Delegates."

This report was discussed rather exhaustively after which it was moved and seconded that the amendments of this committee be received and adopted. As this question involved the amendment of the constitution, under rule, it must lay over one day. It was on motion laid over until tomorrow.

Delegate Burkhardt suggested the advisability of appointing a committee of three to present at the next annual meeting a code of ethics. Carried. The Chair appointed as members of this committee, C. L. Burkhardt and M. L. Harris. On motion William E. Quine was made Chairman of the committee.

Special Committee on Tuberculosis, by J. W. Pettit, Chairman, reported as follows:

EXHIBIT 2.

To the President and Members of the Illinois State Medical Society:

Gentlemen—Your committee, who were instructed to take charge of the crusade against tuberculosis in this State, beg leave to report as follows:

Our first efforts were directed to the organization of the medical profession of the State. We communicated with many of the leading men representing the several schools of practice asking their co-operation. We found them a unit on the proposition to stamp out the disease and take necessary steps to care for those already afflicted. The press of the State was equally cordial and enthusiastic in its support. The symposium on tuberculosis presented at the last meeting of the Society was published in whole or part in almost every newspaper or periodical in the State. By this means the public has been enlightened, and through the interest thus created medical societies throughout the State have made the subject prominent in their deliberations during the past year. To these meetings the public has been invited and a general interest stimulated. The State Board of Health has materially aided the

propaganda by the very general distribution of a circular on the subject of tuberculosis.

Every recommendation made at the last meeting of this Society has been adopted by your committee and is either accomplished or in process of accomplishment.

The recommendation to establish a State laboratory for free bacteriological examinations was very promptly adopted by the State Board of Health, and it is now possible for any physician in the State to have such examinations made free of charge.

We also established a Tent Colony at Ottawa, which has been under the direct supervision of the committee, for the purpose of demonstrating that tuberculosis can be cured in this State. The results have been quite as favorable as those obtained elsewhere. This demonstration has had a marked influence in calling public and professional attention to the subject, and has also served to demonstrate that tuberculosis can be cured in this State.

Inasmuch as tuberculosis is a community disease, we believe the successful prosecution of the work depends upon uniting all the social factors in one common organization. Therefore, at the suggestion of your committee, a State Society for the Study and Prevention of Tuberculosis was formed for the further prosecution of the work. The following bodies are affiliated in the new society and took part in the initial organization: The Illinois State Medical Society, Illinois Homeopathic State Society, Eclectic State Medical Society, State Board of Health, State Federation of Women's Clubs, State Federation of Labor, State Teachers' Association, State Conference of Charities and Correction, Visiting Nurses' Association, United Hebrew's Charity Association and State Association of Factory Inspectors.

The State Society for the Prevention of Tuberculosis was formally organized January 19th, 1905. Your committee had full charge of the campaign in this State up to the time of the organization of the State Society for the Prevention of Tuberculosis. Since that time the president of this society and two members of your committee have worked as members of the executive committee of that

society. The Illinois State Medical Society will hereafter exert its influence as an affiliated body. We suggest that the Committee on Tuberculosis be made a standing committee, whose duties shall be to represent this Society in all matters pertaining to this subject and act in harmony with the State Society for the Prevention of Tuberculosis.

It is the purpose of the State Society for the Prevention of Tuberculosis to organize auxiliary societies in every city and town in the State. If the plan outlined shall be successful it must be by the active co-operation of the members of this Society wherever such organizations are attempted.

Immediately upon the organization of the new society they completed the work, which your committee had begun, looking to the securing of an appropriation for the establishment of a State Sanatorium for the treatment of tuberculosis. We are pleased to report that our efforts have been successful to the extent that we have secured an appropriation of twenty-five thousand dollars. This sum is inadequate to meet the demand, but is sufficient to commit the State to the principle of state care of consumptives which is a decided victory.

Your committee are under many obligations to the profession, press and public for their cordial co-operation in everything undertaken. We found the harvest ripe and the laborers many. Every effort made has been crowned with success, and it is safe to say that Illinois stands at the head for work done in this line during the past year. Ours is the only State having an organization worthy of the name. It is officered by men and women of ability and influence, who recognize the gravity of the situation, and are enthusiastic in meeting its requirements. We predict that during the coming year every city and town in the State will have an active auxiliary society affiliated with the State Society for the Prevention of Tuberculosis. With such an organization we can move like a trained army upon the common enemy, and by continuous effort soon place the mortality statistics from tuberculosis well toward the foot of the list where it properly belongs. While the public generally

must be depended upon to materially assist in this work, it will not be successful unless led and directed by the medical profession.

Respectfully submitted,

J. W. PETTIT,

CHARLES LEWIS MIX,

J. F. PERCY.

Same on motion was adopted.

The following resolution by Carl E. Black was presented, and on motion was adopted:

WHEREAS, The safe-guarding of the public health is the duty of highest importance, and the profession has a vital interest in the maintaining of a high standard of admission to the profession.

Therefore, be it *Resolved*, That the Illinois State Medical Society hereby endorse for the position of Secretary of the State Board of Health of Illinois, Dr. J. W. Pettit, of Ottawa, Illinois. He has the necessary qualifications in the highest degree and merits our support.

Be it further *Resolved*, That the officers of the Society be instructed to bring this matter to the attention of the Governor of the State, and to use their best efforts in every way to secure the appointment of Dr. Pettit.

Adjourned to 9:00 A. M. tomorrow.

The House of Delegates was declared in order by President Quine, May 18, at 9:00 A. M. Secretary read the roll. A quorum present. The minutes of the previous meeting were read, and there being no objections or alterations they were therefore approved.

The first order of business was the election of officers.

Nominations for President. The name of H. C. Mitchell, was presented by J. W. Pettit, and the same was seconded by C. S. Bacon.

The name of W. K. Newcomb was presented by C. B. Johnson and the same was seconded by C. W. Hall. It was moved and carried that the nominations be closed.

The Chair appointed as tellers Drs. Harsha, Brown and Bacon.

The tellers reported forty votes cast for President, of which Mitchell received thirty votes and Newcomb ten votes.

It was moved by Newcomb that the election of H. C. Mitchell be made unanimous.

The Chair declared H. C. Mitchell President-elect of the Illinois State Medical Society.

Nominations for First Vice-President.

Black presented the name of J. F. Percy, and Johnson presented the name of W. K. Newcomb. (Pettit stated that Percy did not wish to have his name presented for this office, preferring to go as a delegate to the A. M. A.) The tellers reported that Newcomb was elected First Vice-President.

For Second Vice-President, M. S. Marcy was presented by W. M. Harsha. There being no further nominations it was moved and carried that the Secretary cast the ballot of the House for M. S. Marcy, and the Chair declared Marcy elected Second Vice-President.

For Treasurer the name of E. J. Brown was presented. It was moved and carried that the Secretary cast the ballot of the House for E. J. Brown for Treasurer. The Chair declared Brown elected.

Delegate Burkhardt placed the name of E. W. Weis in nomination for Secretary. It was moved and carried that the nominations be closed, and that the President be instructed to cast the ballot of the House. The Chair declared Weis elected.

The next order of business being the election of Councilors for districts numbers one, two and eight.

For Councilor of District No. 1 the name of J. H. Stealy was placed in nomination by F. H. Jenks, of Aurora.

For Councilor of District No. 2 the name of W. O. Ensign was presented by J. H. Stowell.

For Councilor of District No. 8 the name of C. Barlow was presented by W. K. Newcomb. There being no further nominations it was moved and carried that the Secretary be instructed to cast the ballots of the House for the respective districts. The same was done and the Chair declared them elected.

The next order of business was the election of delegates to the American Medical Association. The following were placed in nomination: D. G. Smith, William Harsha, F. Billings, J. R. Hollowbush, J. F. Percy, C. S. Bacon and D. W. Graham.

It was moved and carried that the five

receiving the highest number of votes be declared elected.

The tellers reported as follows: Smith, 39, Harsha 30, Billings 34, Hollowbush, 34, Percy 38, Bacon 27, Graham 18, and the first five mentioned were declared elected delegates.

For alternates the following were placed in nomination: C. S. Bacon, D. W. Graham, D. W. Miller, of Gilman; L. C. Taylor, of Springfield; J. C. Cook, Chicago; S. C. Stremmel, Macomb; J. L. Wiggins, East St. Louis; J. M. G. Carter, Waukegan, and E. M. Sutton, Peoria.

It was moved and carried that the eight receiving the highest number of votes be declared elected. Tellers reported as follows: Bacon 40, Graham 33, Taylor 38, Cook 35, Stremmel 33, Wiggins 30, Carter 37, Sutton 39 and Miller 29. The Chair declared all but Miller elected.

It was moved by Ensign and seconded that the alternates be taken in order of their election by the number of votes received.

It was moved and carried that Black, Chairman of the Committee on Legislation, make a verbal report of the committee's work. Said report was accepted. Said report mentioned in detail, work done by the committee in regard to certain vicious bills that had been presented to the legislature. No bill was presented by this committee as it was not deemed advisable.

(This report will appear in a future issue of the Journal.)

The Committee on Public Policy by Black reported that the committee did not find it necessary during the year past to take any action whatsoever.

It was moved and carried that the two above reports be accepted.

It was now moved by Will that the consideration of the report and recommendations of the Committee on Medical Defense be postponed until the next annual meeting. Carried.

It was moved and seconded to reconsider motion of postponement. Carried. The question was debated.

The following was moved and seconded: That the committee be instructed to prepare

an address to the profession declaring what it hopes to accomplish, and send a copy of the same to every local secretary so as to inform the entire profession.

The attention of the Chair being directed to the fact that the committee not having complied with all the provisions of its creation, all motions and discussions were declared out of order.

It is now moved and seconded that the Committee on Medical Defense continue its work as originally adopted. Carried.

It is moved and seconded that the Committee on Tuberculosis, namely, Pettit, Mix and Percy, be continued.

It is moved and carried that the Committee on Dental Relationship be continued, namely Mammen, Preble and Adams.

It was now moved and seconded that the annual per capita dues be fixed at \$1.50. Carried.

For the place of the next annual meeting the city of Springfield was suggested by Langdon and the city of Galesburg by Ryan. A standing vote being taken, Springfield received 29 and Galesburg 5 votes.

The Secretary's report was read and on motion was adopted.

EXHIBIT 3.

OTTAWA, ILL., May 10, 1905.

To the House of Delegates of the Illinois State Medical Society:

Your Secretary begs leave to present the following:

Pursuant to the order of the Council I levied an assessment on the component societies, as per list of membership in the register, and as furnished by the local secretaries.

(Where no assessment was levied there was no return made of membership by the Secretary, but in these counties many physicians paid the subscription price to the editor for the Journal. While being subscribers they are not members of the State Society until certified as members of the component societies.)

Adams	\$96 00
Alexander	12 00
Bond	19 50
Brown	21 00

Bureau	12 00	McDonough	30 00
Calhoun	10 50	McLean	133 50
Carroll	31 50	Menard	27 00
Cass	31 50	Mercer	39 00
Champaign	91 50	Monroe	
Christian	31 50	Montgomery	
Clark	18 00	Morgan	63 00
Clay	33 00	Ogle	33 00
Clinton	27 00	Peoria	115 50
Coles	27 00	Piatt	15 00
Crawford	34 50	Pike	48 00
Cumberland	19 50	Pope	18 00
DeKalb		Pulaski	25 50
DeWitt	39 00	Putnam	9 00
Douglas	36 00	Randolph	
Edgar	34 50	Richland	25 50
Edwards	15 00	Rock Island	84 00
Effingham	45 00	Saline	
Fayette	16 50	Sangamon	106 50
Franklin		Schuyler	6 00
Fulton	64 50	Scott	22 50
Gallatin	22 50	Shelby	25 50
Greene	34 50	Stark	19 50
Grundy	19 50	St. Clair	132 00
Hancock	46 50	Stephenson	61 50
Henderson	13 50	Tazewell	21 00
Henry	30 00	Union	22 50
Iroquois-Ford	54 00	Vermilion	108 00
Jackson	25 50	Wabash	27 00
Jasper	24 00	Warren	37 50
Jersey	19 50	Washington	18 00
Jo Daviess	43 50	Wayne	21 00
Fox River Valley Medical Society, for Kane and McHenry Counties		White	24 00
Johnson	33 00	Whiteside	36 00
Kankakee	60 00	Will	70 50
Kendall	18 00	Williamson	
Knox	70 50	Winnebago	84 00
Lake	39 00	Woodford	
LaSalle	66 00	Chicago Medical Society, for Cook County	2,145 00
Lawrence	27 50	Appended herewith is the financial state- ment of monies received by me from May 1, 1904, to May 1, 1905, as follows:	
Lee	52 50	Adams	\$93 00
Livingston	49 50	Alexander	12 00
Logan	12 00	Bond	3 00
Decatur Medical Society, for Ma- con County	93 00	Brown	18 00
Macoupin	60 00	Bureau	72 00
Madison		Calhoun	10 50
Marion	36 00	Carroll	7 50
Marshall	19 50		
Mason	25 50		

Cass	54 00	Mercer	16 50
Champaign	16 50	Monroe	7 50
Christian	28 50	Montgomery	10 50
Clark	17 25	Morgan	67 50
Clay	13 50	Ogle	27 50
Clinton	27 00	Peoria	82 50
Coles	18 00	Piatt	15 00
Crawford	28 50	Pike	45 00
Cumberland	16 50	Pulaski	16 50
DeKalb	25 50	Putnam	6 00
DeWitt	4 50	Rock Island	66 00
Douglas	1 50	Sangamon	95 50
Edgar	45 00	Scott	18 00
Edwards	12 00	Shelby	3 00
Effingham	15 00	Stark	12 00
Fayette	10 50	St. Clair	100 50
Fulton	12 00	Stephenson	88 50
Greene	7 50	Subscriptions	4 50
Grundy	19 50	Tazewell	6 00
Hancock	28 50	Vermilion	66 00
Henderson	13 50	Wabash	22 50
Henry	31 50	Will	84 00
Iroquois-Ford	55 50	Washington	18 00
Jackson	10 50	Wayne	13 50
Jasper	4 50	Warren	31 50
Jersey	13 50	Whiteside	22 50
JoDaviss	87 00	Winnebago	24 00
Johnson	18 00	Woodford	5 50
Fox River Valley Medical Association, for Kane and McHenry Counties	64 50	Chicago Medical Society, for Cook County	202 50
Kankakee	43 50		\$2,806 75
Kendall	18 00	C. E. BLACK,	
Knox	85 50	J. H. STEALY,	
Lake	40 50	J. WHITFIELD SMITH,	
LaSalle	54 00	<i>Auditing Committee.</i>	
Lawrence	30 00	It gives me great pleasure to say that the	
Lee	55 50	officers of the component societies are taking	
Livingston	10 50	greater interest in their work than hereto-	
Logan	36 00	fore. The membership lists are being con-	
Decatur Medical Society, for Ma-		stantly added to by the younger element of	
con County	90 00	the profession, who seem to appreciate the	
Macoupin	10 50	privileges attached to such membership more	
Madison	16 50	than those who have practiced medicine for	
Marion	36 00	years without affiliation. At the rate of prog-	
Marshall	13 50	ress now being made in a few years fully 75	
Mason	19 50	per cent of the profession of the State will	
McLean	145 50	be found enrolled as members.	
Menard	1 50	Charters were issued during the year just	

past to the following counties: Woodford, Monroe and Jefferson.

In my last report I stated that I had just received a complete card index system for the use of your Secretary and the secretaries of the component societies, in duplicate. The cards were sent to the local secretaries, who obtained the necessary information. Returns have been made by most of the secretaries, which were copied in my office and the copies sent to the local secretaries for reference and any changes that might occur. I would like to urge upon the local secretary the necessity of expedition in complying with this part of the work. It is for the purpose of obtaining the most accurate information of every physician, and his standing in the State, as well as for the American Medical Association in the publication of its directory.

During the year the secretary of the American Medical Association suggested an interchange of programs of the component societies, thereby stimulating to greater effort and interest in their work. He also offered to publish a list of the secretaries with addresses, so that each local secretary might send the program of its respective society to all of the others. I transmitted this list to the officers, and I think it has resulted in great good.

Your Secretary attended every meeting of the Council during the year, as well as the meeting of the Committee on Scientific Work. The Committee on Scientific Work responded to a call in Rock Island in January last and formulated the necessary program plans. As you will note by the selection the section officers have been very diligent and present a program of unusual interest. In August last your Secretary met with the Committee of Arrangements at Rock Island for the purpose of aiding said committee in making its arrangements for the entertainment of the State Society.

Respectfully submitted,

E. W. WEIS, *Secretary*.

It was moved, seconded and carried that the Secretary be instructed to convey to the Committee of Arrangements, the physicians

of Rock Island and their friends our thanks and appreciation for their entertainment of the Illinois State Medical Society. Carried.

It was moved by Newcomb that C. B. Johnson of Champaign be endorsed for the position on the State Board of Health. Carried.

It was moved and seconded that the Committee on Medical Legislation and Public Policy be continued as heretofore, namely Billings, Black and Pettit.

On motion the House of Delegates adjourned *sine die*. EDMUND W. WEIS, *Secretary*.

The report of the Legislative Committee had not been received up to the time of going to press. It will appear in the August issue also Councilors reports.

ARREST MEDICINE MAN.

Is Charged With Delivering Obscene Literature at Residences.

Because, it is alleged, the Dr. Fisher Medical Company has been distributing obscene matter at residences in this city, Doctor Law of that concern was arrested last night by the authorities and fined \$10 and costs. He further agreed to submit all future advertising matter to the chief of police for inspection before distribution.

Law claims that there was no intention of giving out anything that was objectionable and that the same literature has been used in other cities without objection.—Illinois State Journal, Sunday, June 25.

DISTRIBUTED BAD LITERATURE; DOCTORS SETTLE A FINE.

Police Start Crusade Against Violators of Obscene Literature Ordinance and Make Arrest.

Fake medicine agencies will do well to hereafter hunt other fields rather than Springfield for the distribution of their obscene advertising matter. The police have begun a crusade to stop the injurious practice, and all offenders will be given the fullest penalty of the law.

Dr. Law, representing the Dr. Fisher company, which has recently opened offices in this city, was last night arrested on a warrant charging the distribution of obscene literature, and was assessed a fine, which he paid. Law, it seems, scattered literature concerning diseases, which he illustrated with uncanny pictures. The rot fell into the hands of boys and girls, and as it was scattered broadcast naturally accomplished harm. The practice of distributing this matter is a harmful one to growing children and the effort of the authorities to abolish it is appreciated by parents.—Illinois State Register, Sunday, June 25.

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

JULY, 1905.

NEXT ANNUAL SESSION, SPRINGFIELD, MAY 17, 18, 19, 1906.

OFFICERS:

PRESIDENT—H. C. MITCHELL, Carbondale.

FIRST VICE PRESIDENT—W. K. NEWCOMB, Champaign.

SECOND VICE PRESIDENT—M. S. MARCY, Peoria.

SECRETARY—EDMUND W. WEIS, Ottawa.

TREASURER—EVERETT J. BROWN, Decatur.

EDITOR—GEORGE N. KREIDER, Springfield.

ASSISTANT EDITOR AND BUSINESS MANAGER—F. C. GREEN, 63rd and Lexington Ave., Chicago.

SECTION ONE.

Practice of Medicine, Medical
Specialties, Materia Medica,
Therapeutics, Etiology, Path-
ology, Hygiene, State Medi-
cine and Medical Juris-
prudence.

J. H. Stowell Chairman
Columbus Memorial Building,
Chicago.

H. H. Whitten Secretary
Peoria.

SECTION TWO.

Surgery, Surgical Specialties,
and Obstetrics.

J. R. Christie Chairman
Quincy.

S. C. Plummer Secretary
34 Washington St., Chicago.

Committee on Prevention of Tuberculosis.

J. W. Pettit, Ottawa.

C. L. Mix, Chicago.

J. F. Percy, Galesburg.

Committee on Public Policy and Legislation.

Frank Billings, Chicago.

Carl E. Black, Jacksonville.

J. W. Pettit, Ottawa.

The Pres. and Sec'y. Ex-Officio.

Committee on Scientific Work.

M. S. Marcy, Peoria.

Geo. L. Eyster, Rock Island.

The Pres. and Sec'y. Ex-Officio.

The figures before the names
of the Councilors refer to the
Councilor Districts.

The Council.

- (1) J. H. Stealy, Freeport.
- (2) W. O. Ensign, Rutland.
- (3) M. L. Harris, Chicago.
- (4) O. B. Will, Peoria.
- (5) J. Whitefield Smith, Bloom-
ington.
- (6) C. E. Black, Jacksonville.
- (7) E. E. Fyke, Centralia.
- (8) C. Barlow, Robinson.
- (9) J. T. McAnally, Carbondale.

IS THERE A DAILY PAPER IN ILLINOIS TAKING THIS STAND?

The Kansas City Star of June 4 has printed the following statements which it considers of so much importance that it has published them as an advertisement in the Chicago Daily Tribune.

The action of the Star is so radical and the success attending the reform has apparently been so marked that we feel like commending it and recommending imitation on the part of some Illinois journals, the columns of which are disgraced by advertisements which the Star has cast aside.

THE BOYCOTT AND THE BARRIER.

I. These Were Taken Out:

Since the Kansas City Star declared unequivocally in support of Governor Folk's enforcement of the Sunday closing law, the allied brewery and distillery interests have NOT ONLY WITHDRAWN EVERY WINE, BEER AND WHISKY ADVERTISEMENT from the columns of this paper, but they have compelled the withdrawal of OTHER CLASSES OF ADVERTISING, such as cigars, tobacco, mineral waters and other beverages.

THIS BOYCOTT WAS WAGED VIGOROUSLY, AT LONG RANGE AND SHORT, AND THE TOTAL

SPACE VACATED BY REASON OF IT WAS CONSIDERABLE.

II. These Were Barred Out:

During the past year the Star has been more vigilant and vigorous than ever before in refusing to accept or renew contracts for OBJECTIONABLE MEDICAL ADVERTISEMENTS, GET-RICH-QUICK LURES AND QUESTIONABLE ADVERTISING OF EVERY KIND.

The amount of revenue thus rejected was very large. Advertising in such fertile soil that noxious weeds are quick to claim foothold therein.

III. But There Were Others!

Here is the Star's advertising record for the months of May, 1904, a year ago, and May, 1905, just ended. Under the circumstances it may have a special interest as an example in addition, subtraction and rejection.

Evening and Sunday	596,686 lines	668,691 lines
Morning	329,178	400,156
Total	925,864	1,068,847
Increase May, 1904, over May, 1905		142,983

That is, the Star in May of this year carried OVER 476 COLUMNS, OR 67PAGES, MORE advertising than in May of last year.

IV. Meanwhile:

The circulation of the Star within the same period has INCREASED NEARLY 8,000 DAILY. Here is the comparative average daily distribution:

	May, 1904.	May, 1905.
In Kansas City.....	62,771	67,821
Outside Kansas City.....	63,752	66,358
Total	126,523	134,179

THE ILLINOIS LEGISLATURE OF 1905.

The St. Louis Clinique, edited by Dr. C. W. Lillie, of East St. Louis, has the following editorial item concerning the work of the Illinois legislature as regards the bills of interest to the medical profession. The edi-

torial is so nearly in line with our remarks in the June Journal, that we give it in full.

It is often said that the adjournment of a state legislature is justification for thanksgiving by the citizens of that state, the truth of which statement can be easily verified in many cases.

The work of a legislaure can sometimes be commended, both on account of what it did do and what it left undone. The Illinois legislature is of this kind. It did some things which can be commended; and it failed to do others which would, if done, have been sufficient cause for condemnation.

Of the things of particular interest to the medical profession, the passage of a bill providing for free "treatment and care of persons afflicted with rabies," an amendment to the health laws providing for an agent in each county for the distribution of diphtheria antitoxin to the poor, a bill providing an examining board for trained nurses, a bill appropriating \$25,000 for the establishment of a State sanitarium for consumptives. This last appropriation is only a minute fraction of what should be applied for this purpose, but the enactment is one of the best ever made by any legislature.

The commendable omissions were the failure to pass the three "osteopathic" one so-called "medical," one "optometry" and one "anti-vivisection" bill.

The Illinois legislature has made an excellent record.

This much for the work of the Illinois legislature; but what can we say of the chief executive when he vetoes the bill? It is true that the appropriation was insignificant; that it would have been only a beginning in the right direction; but there is much to learn about the work of establishing sanitarium; those appointed to carry out the plans outlined in the bill would have required time to work out the details and get in shape to handle the matter in the best possible manner, and much of this could have been done with a \$25,000 appropriation, so that when sufficient funds would have been furnished, as must be done sooner or later, the progress would have been uninterrupted.

While the legislature is to be commended for what it has done, we may not condemn the Governor for his course, as he is doubtless actuated by the best of motives.

One good will probably result from this veto. There will doubtless be more effort on the part of the medical profession of the State in behalf of this kind of legislation; and if there is once a determined and united effort on the part of the doctors the results will be apparent. Heretofore there has been only apathy and apparent indifference as to the result regarding this most important matter, and while this condition exists we cannot hope legislators and governors will take any profound interest in it.

Correspondence.

HOMEOPATHIC MATERIA MEDICA IN CHICAGO.
To the Editor of the Illinois Medical Journal:

In a recent issue of The Critique, a monthly medical journal published at Denver, will be found a first-page article entitled "Ferrum Arsenicum," from the pen of Dr. James Tyler Kent of Chicago. Dr. Kent is professor of materia medica in the Hahnemann Medical College of Chicago, an institution holding considerable property and making strong efforts to become a part of the University of Illinois. In view of this proposed union with the State University it may be of interest to the physicians of Illinois to gather some glimpses of the sort of teaching that may be expected in the department of materia medica. I shall give some extracts from Prof. Kent's paper, being careful in all cases to present the precise language and punctuation.

"Complaints in general are aggravated in the morning, on waking; afternoon; evening; night, before midnight, after midnight."

It would seem somewhat difficult to portray a more energetic and vigilant aggravation than the one here set forth.

"Epileptiform convulsions; tonic spasms. Blood vessels distended. Internal and external dropsy. Many complaints come on or are worse after eating. Emaciation. She faints easily * * * Sensation of fulness. Subject to hemorrhages. Inflamed parts indurate. Inflammation of glands and organs. * * * Lying aggravates many symptoms. The longer he lies the more restless he becomes; must get up and walk about."

When lying produces such deplorable results it may not be uncharitable to suggest an old-fashioned "allopathic" remedy, namely, a strict adherence to the truth.

Prof. Kent seems to have discovered a range of action in this drug that would have done credit to the lamented Mrs. Pinkham. He says:

"Inflammation of the female genitals, uterus. Itching genitals. Leucorrhea. Excoriating, thin, white. Amenorrhea. Menses

bright red, copious, dark, too soon, painful, pale, protracted, scanty, suppressed. Uterine hemorrhage. Pain in uterus. Burning in labia. Prolapsus uteri."

Turning now to the respiratory tract, Prof. Kent covers the ground with his usual thoroughness.

"Expectoration in daytime; morning, night; bloody, blood streaked, copious, difficult; greenish, mucus; offensive, purulent; nauseous; putrid, sweetish, thick, viscid, whitish, yellow."

Nonsense of this sort is harmless, even to those addressed, but why such "teaching" should be admitted to a State institution supposed to be dedicated to the promulgation of science is not apparent.

Observer.

VALUABLE LOCATION OPEN.

Jacksonville, Ill., June 11.

I left a practice of nine years standing at Kampsville, Ill., Calhoun county, an excellent place for some young man. No money required.

T. O. Hardesty, M. D.

COMMENDS THE JOURNAL.

Wickliffe, Ky., June 11, 1905.

I have this week withdrawn from the membership of the Chicago Medical Society, so I am no longer entitled to the Medical Journal. I wish to express my appreciation of its worth. It is of practical value, progressive and clean.

Yours very truly,

John C. Boone, M. D.

JOB LOT OF MAD STONES.

We have received the following interesting communication which we give *verbatim et literatim*.

To the Ill. State Journal:

EDINBURG, ILL., June 23, 1905.

Editor:

I wish to just state to your readers that Mr. Ed Watkins of this place has invented a small device that fully takes the place of the mad stone it draws all poison out of the flesh snake bites dog bites all kind of poison insect stings rusty nail poison scorpion

stings spider bites etc quickly yealds to this powerful magnet stone 10 minutes time draws out the worst cases Mr. Watkins has lately manufactured 300 of them \$1 each

Yours, etc,

E. WAITE.

News Items.

Dr. W. H. Hoskinson, of Trimble is dead.

Dr. Wilson of Rosemond, is ill with malarial fever.

Dr. G. L. Crocker of Springfield, is visiting in Idaho.

Dr. J. L. Kerrell of Honey Bend has removed to Alton.

Dr. H. A. Zinser has removed from Roanoke to Washington.

Dr. L. H. Rue has removed from Taylorville to Lexington.

Dr. C. C. McMakin has removed from Campaign to Roanoke.

Dr. J. R. Pierce, of Iuka, will return to his former location at Cornland.

Dr. J. W. Wilcox, of Springfield, was recently re-elected city physician of Sangamon county.

Dr. J. W. Kelly of Springfield, is taking post-graduate work at Chicago and New York.

Dr. Walter Ryan of Springfield, is visiting in Michigan where his son Charles recently graduated.

Dr. Wm. T. Dowdall, who has practiced for some time in Clinton, has removed to his old home and birthplace, Peoria.

Dr. C. P. Colby, of Springfield, was recently elected attending physician to the county poor house, located near Buffalo.

Dr. F. D. Morton of Taylorville, recently went to Indianapolis to attend the graduation of his sister at the Kinder Garden Training School.

Dr. Frank P. Norbury, of Jacksonville, has accepted the professorship of nervous and mental diseases in the Keokuk, Iowa, Medical College.

Dr. W. T. Linn residing near Pana, celebrated his ninetieth birthday anniversary recently. Dr. Linn served as a surgeon during the Civil War.

The engagement of Dr. C. Martin Wood, of Decatur, to Miss Edith E. Loose, of Illiopolis, has been announced. The wedding will take place in the early fall.

Dr. C. M. Bowcock and family, of Springfield, have gone to the sea shore to spend the summer for the benefit of Dr. Bowcock's health. He is rapidly recovering from his recent severe illness.

Dr. Walter H. Allyn, of Waverly, recently attended the fiftieth annual commencement exer-

cises of the Eureka (Ill.) College and made an address in behalf of the class of '99 at the alumni banquet.

Dr. Z. V. Kimball, of Hillsboro, will leave that city soon for Keokuk, Iowa, where he will enter the office of Dr. Henry Gray, an old Montgomery county man. Dr. Kimball is county physician of Montgomery county and a councilman from the First ward of Hillsboro.

The Illinois Homeopathic Medical Association held its fiftieth annual convention and elected the following officers: President, Dr. S. H. Aurand, Chicago; first vice president, J. N. Downs, Ottawa; second vice president, Dr. Mary Hanks, Chicago; treasurer, Dr. E. C. Sweet, Chicago. Chicago was chosen as the next meeting place.

Commencement exercises of the College of Physicians and Surgeons were held June 6, when 213 graduated, 13 of whom were women. The names of four women appear on the honor list. The doctorate address was delivered by Rev. Wm. A. Quayle, and the degrees were conferred by Prof. T. J. Burrill, vice president of the University of Illinois.

Thirty-two physicians recently passed the examination and were declared eligible to positions in the City Hospital and Female Hospital in St. Louis. Among these were the following gentlemen from Illinois recently graduated from the St. Louis schools: Dr. Conrad B. Von-nahme, of East St. Louis; Dr. C. B. Caldwell, of Monticello, Ill.; Dr. Wm. J. Carter, of Gays, Ill.; Dr. Z. D. Lumley, of Kampsville, Ill.; Dr. Clarence E. Betts, of Lovington, Ill.

The Cincinnati Sanitarium has published the thirty-first annual report of its medical director, which contains much interesting and instructive information concerning the conduct of this well-known institution, and also with reference to the care and treatment of persons afflicted with nervous and mental diseases. The report shows very encouraging results as to recovery among the patients of the sanitarium, and should be read by everyone interested in the subject.

Two Sisters from Alton of the order of the Most Precious Blood visited Taylorville recently and looked into the matter of establishing a hospital there. Several sites were looked at. The general opinion was in favor of the establishment of a hospital. The following committee was appointed to take charge of the matter: S. K. Strother, Henry Biermaun, Major James W. Leigh, Supervisor Frank M. Martin, Mrs. Frank Brewer, Dr. Guy Armstrong, Dr. Andrew F. Hammer, Dr. J. H. Dickerson and Dr. D. D. Barr.

The Illinois Medical Bulletin has the following editorial anent the veto of the consumptive bill:

STATE SANITARIUM KILLED.

Governor Deneen has made the serious mistake of vetoing the bill which provided an appropriation of \$25,000 for a State sanitarium for the treatment of tuberculosis. An effort was made by the medical profession of Illinois to secure an appropriation of \$100,000 for this pur-

pose, but the amount was cut down to \$25,000, and it was generally understood that Governor Deneen, who was an honorary president of a society which was especially active in favor of the bill, would give it his approval.

This backward step keeps the great State of Illinois still behind many other states in the prevention and cure of a disease which robs the commonwealth of many useful lives every year. Last year consumption caused between 7,000 and 8,000 deaths in Illinois—more deaths than were caused by diphtheria, typhoid fever, scarlet fever, influenza, bronchitis, smallpox, measles and whooping cough together. This dread plague caused a death rate five times greater than that from any other dangerously communicable disease.

In view of all the well known facts in the case it is astonishing that the Governor, who, by the stroke of a pen, could have been instrumental in saving to the State many valuable lives, should have doomed to an unhappy fate many lives that might have been saved. Many bills were signed which carried appropriations for large expenditures that might better have been lopped off in the interest of the war on disease—a disease which costs Illinois over \$36,000,000 each year. Yet, not even a trivial \$25,000 could be obtained to start a fight to stamp out the malady. Medical men stood ready to add to the miserable little appropriation, if it were granted, and to give their time and skill to reduce the appalling mortality, which, from a cold economic standpoint, the State could well afford to consider.

The medical profession is disappointed and chagrined. Our army of consumptives have still left the privilege of watching the flickering lamp of life and of thanking the State's representatives that the grave yet remains open to receive them, while a plenty of money can be found in the treasury to build monuments to the politicians. Heaven help the stricken consumptives—our State will not!

Barbarous Surgery.

When the Medical and Chirurgical Society of London was founded in 1805 the barber-surgeon was still more or less tolerated. At one of its early meetings one Dr. Wardrop advocated the "excellent custom" of bleeding patients till they fainted, so that they might be the subject of surgical operation while in an insensible condition.

Dr. W. C. Blankmeyer Appointed to New Office Created by General Assembly.

Dr. W. C. Blankmeyer of the Northwestern University medical school, has been appointed bacteriologist of the State Board of Health by Secretary J. A. Egan. This is a new office created by the last general assembly. Doctor Blankmeyer has had an extended experience in chemical and bacterial work, and will be a valuable acquisition to the board. Doctor Blankmeyer succeeds, W. J. Hoyt in the laboratory. Mr. Hoyt having been appointed registrar of vital statistics.

DR. JOHN COLE STILL IN TROUBLE.

Jury Trying Three Persons Charged With Causing Death of Girl Disagrees and is Discharged.

Galesburg, Ill., June 26.—After being out forty-eight hours and being unable to agree, the jury in the murder case against Isaac Shelton, Dr. John Cole, and Rebecca Carroll, charged with causing the death of Lena Ramp, was discharged. From the start the vote stood eight for conviction and four for acquittal.

Additional State Journals.

At its last session held at Houston, Texas, April 24-28, the Texas State Medical Association adopted the journal method of printing its transactions, thus disposing of the Texas Medical Journal as the official organ of the society to the great disgust of its editor, Dr. F. E. Daniel. The report of the secretary shows that there were 2,263 members of the Texas State Society, placing that state fifth in membership and enrolling about one-half of the total number of the practitioners in the state.

The Ohio State Medical Society also adopted the journal idea and the journal will probably be started in a short time and located at Columbus.

Civil Service Becomes a Law.

Governor Deneen promptly signed the civil service bill, which goes into effect November 1. Bills unless otherwise specified go into effect July 1. This bill does not become effective until in the fall, which permits a number of changes to be made in the institutions before their employes become protected by law.

Under this bill 2,000 employes in the institutions under the supervision of the State Board of Charities will be placed under a commission to be appointed by the Governor. The only man mentioned thus far for one of the appointments is Representative Aaron Norden of Chicago, who introduced the bill and was chairman of the civil service committee in the house.

This measure, known as House bill 121, provides for three commissioners, who shall receive salaries of \$3,000 each annually. The chief examiner shall be paid \$2,500. The board is to be appointed within thirty days after the act becomes a law on July 1, that the work of classifying the employes of the respective institutions may be undertaken. The merit system will then become effective on Nov. 1.

The Missouri State Medical Association.

The forty-eighth annual meeting of this society took place at Excelsior Springs May 16-18, the same time as the Illinois State Society. The usual telegrams of greeting were passed between the two societies. In point of numbers, it was the largest attended meeting the society has enjoyed for many years, there being about 450 in attendance.

The Kansas City Medical Index-Lancet, of which our friend, Dr. John Punton, is editor, devoted an editorial to criticism of the methods of conducting that society, from which we give the

following extracts as being in some manner applicable to some other societies than the Missouri organization.

It would appear that some further change in the method of conducting the business of the State Society would be desirable in order that the business of the Society should not interfere with its scientific labors. We would suggest that it would be desirable for the counselors to meet in the morning of the day preceding the meeting of the State Society and the House of Delegates to meet the same afternoon and evening and thus to have the bulk of the business transacted or in process of transaction before the Society meets in scientific session.

Final action on business matters proposed at these meetings could be deferred until about the close of the session, after the proposed legislation has been discussed by all the members in attendance.

In order that all the members may be kept in touch with the business of the House of Delegates, it would be well, we believe, to have a bulletin, for general information, issued each day during the session. The following are extracts from Dr. Punton's editorial:

In spite of the desire of the officers to make this meeting the most successful so far in the history of the State Medical Association by giving first place to the scientific program, it is with regret that we are compelled to state that this worthy object in large measure met with dismal failure. Two things contributed towards this, viz.: the injection of the business of the House of Delegates into the program upon all three days and the great prominence given the social functions, both of which in our judgment were serious mistakes. Notwithstanding the fact that the entire first day was purposely allowed the House of Delegates to transact the purely business affairs of the Society, it was, to say the least, most disappointing to all those not included in this "business coterie" to find that nothing worth mentioning had been done by them at the close of the first of the three days' session.

It was therefore almost noon of the second day before Dr. Jabez Jackson, the president, called for the first number on the scientific program, and as there were thirty papers to be read and discussed, in addition to a banquet and other social and business affairs announced on the program, it was very clear to the experienced that the most important part of the meeting and that which so many had sacrificed their time to come to hear would be more or less side-tracked, which prediction proved only too true, as the scientific program became at once a secondary consideration.

While the physicians of Clay county and citizens of Excelsior Springs deserve much credit for their hospitality and entertainment, yet it is to be hoped that in the future, all social functions assuming the dignity of a banquet will not be accepted from any county organization or the citizens of any city in which the State Medical Society may meet. The nearest approach to anything of this kind which should be accepted might be in the nature of a

"smoker," but even this should not be tolerated until after the evening sessions, which should be held at least on the evenings of the first two days of the meeting.

The Daily Press Condemns Present Method of State Appropriations.

In line with our criticism of last month on the methods of the State Legislature in passing appropriations, we insert the following editorial from the Chicago Tribune of recent date, containing similar statements, all of which we believe are thoroughly justified:

STATE APPROPRIATIONS.

The general assembly passed one appropriation bill after another without stopping to reflect what the aggregate would be, or whether it would be judicious to call upon the taxpayers for such large contributions. Legislating carelessly and unthinkingly, it appropriated about a million dollars more than was expedient. It devolved upon the Governor to cut that amount out of the appropriation bills as best he could. He had to do it by vetoing here and there separate items, which were in themselves unobjectionable, and which he would have allowed to stand if there had been any other way of trimming down the sum total of the appropriations.

It is to be hoped that the next general assembly will deal more scientifically than its predecessor with this matter of appropriations. The first thing for the legislature to do—or for those who control it—is to determine roughly the aggregate amount it is expedient to demand of the taxpayers. Then that amount should be divided among the beneficiaries with some regard to their actual needs. If economies have to be made they can be made intelligently. One department of the public service will not have to suffer at a governor's hands because some other department has been given too much in such a way that its appropriation cannot be cut down.

In order that the legislature may be enabled to make appropriations intelligently and judiciously, it should be supplied by every department or institution with itemized estimates. They should go as much into detail as those submitted to the national house of representatives or the Chicago council. The legislature should specify in its appropriation bills the number of men to be employed, the wages they are to get, and the amount to be spent for supplies and other purposes. Then the people would know precisely how their money was expended. Men in charge of State institutions prefer lump appropriations, for it is easier to hide the use made of the money.

There should be a complete remodeling of the method of dealing with appropriations in the Illinois legislature. It is needed that there may be a judicious expenditure of public funds and that light may be thrown on the dark places for the information of the taxpayers.

The Importance of the Sanitary Work on the Isthmus of Panama Finally Being Established.

From the Chicago Tribune of May 20, we extract the following telegram from New York

containing the interview with the Hon. John Barrett, the American minister to Panama, showing that the government is finally being aroused to the importance of the sanitary work in constructing the canal at Panama. This also goes to show that the protest made by Dr. C. A. L. Reed after his visit to the canal was amply justified and will probably result in the saving of many lives and much money.

YELLOW JACK MORE SERIOUS PROBLEM THAN ENGINEERING.

"More harrowing than the political complications and more difficult to contend with than the engineering difficulties is the yellow fever plague, that big sinister foe that the Panama canal builders have to meet in establishing a waterway across the strip of land," declared John Barrett, the American minister to Panama, upon his arrival here on the steamship *Advance*. When told that five new yellow fever cases had been reported at Colon, he said:

"This report is alarming. Up to this time it appeared that the yellow fever situation in Panama was well in hand. I do not believe in deceiving the public in these matters. It is far better the truth should be known.

"The climate is against us and the disease is ever present. Under the efficient care of Dr. Georgas, an eminent yellow fever expert, everything possible is being done to offset the increased mortality. Considering the enormous number of canal employes on the isthmus the percentage of illness that prevails is small, but you know how these things are. If one-half were sick with malaria nothing would be thought of it, but if a case or two of yellow fever appears all employes want to quit and get away.

This government has to face a more serious question on the canal zone than it ever had to face before either in administration or in the engineering of a canal. During the thirty days before I sailed there were more cases of yellow fever than during the whole period of American occupancy. Five new cases were reported at Colon the day before I sailed. I do not wish to be understood to say there is any cause for panic, but I believe the situation is serious, and questions of administration and engineering fade into insignificance when compared to the question of yellow fever."

CHICAGO ITEMS.

Dr. W. A. Kuflewski has been appointed a member of the Chicago school board.

Dr. and Mrs. Gustavus M. Blech will return from Europe about July 1st.

Dr. Cornelia V. Ve Bey has been appointed a member of the Chicago school board.

Dr. Chas. J. Whalen, of 309 Beldem avenue, has been appointed health commissioner of Chicago to succeed Dr. Arthur R. Reynolds, who has occupied that position for many years.

The Chicago Visiting Nurses' Association recently received \$15,000 by the will of Mr. E. G. Keith.

Dr. Bayard Holmes' work "Appendicitis and Other Diseases About the Appendix," is most

favorably reviewed in a recent issue of the *Deutsche Medizinische Wochenschrift*, by Dr. A. Kohler, of Berlin.

Dr. Geo. W. Boice, 1138 Oakley avenue, Chicago, recently expressed to a deputy sheriff an unfavorable opinion of judges and deputy sheriffs and criminal trials. He was moved to this opinion by the service of a subpoena to appear as a witness in a trial before Judge Tuthill. The Doctor afterwards said he was only "kidding." The judge prescribed \$10 and costs as a proper antidote for his merriment.

Rush Medical College graduated seventy-one students at the annual commencement exercises in Mandel Hall at the University of Chicago recently. The graduating class was one of the largest in the history of the school. Sidney Klein received the Benjamin Rush medal for general excellence in examinations. Klein also tied for the J. W. Freer medal. Walter Wile Hamburger was given the medal, and the prize of \$50 was divided between Klein and Hamburger. The other honors were:

Fellowship in pathology—Herman Emil Wolf.

Fellowship in medicine—Ludwig M. Loeb.

De Laskie Miller prize—Emmett James Howell.

Dr. Ira Remsen, president of Johns Hopkins university, delivered the commencement address.

Mrs. Margaret E. Gugerty alleged that she was neglected while being treated for rheumatism two years ago in Mercy Hospital, recently started suit to recover \$10,000 damages from that institution.

"Mrs. Gugerty was an extremely nervous and fretful woman," said John R. Harrington, attorney for the hospital. "There is absolutely no foundation for the charges that she was in any manner slighted by the hospital officers or nurses."

"Mrs. Gugerty says she was neglected and not accorded the treatment she should have been given to aid her in a cure of her disease," said the woman's lawyer.

Give Dr. Reynolds a Watch.

A gold watch was presented to Dr. Arthur R. Reynolds, retiring commissioner of health of Chicago, June 26th, by 250 employes of the health department. The presentation speech was made by E. R. Pritchard, secretary of the health department.

Charles Sumner Bacon.

Dr. Charles S. Bacon, 426 Center street, who was elected president of the Chicago Medical Society, was graduated from the Northwestern university medical school in 1884. He is professor of obstetrics of the Chicago Polyclinic, on the medical staff of the German hospital and St. Mary's maternity hospital, and is editor of the Chicago Gynecological society's publications. He is a member of many professional societies, among them the American Medical Association and the Illinois State Medical Society. He succeeds Dr. J. B. Murphy as president of the Chicago Society.

Dr. Lewellys Barker, recently of the Rush faculty, will begin his duties at Johns Hopkins, Baltimore, about the middle of September.

Prof. Werner Spalteholz of the University of Leipzig, where he is professor of anatomy and custodian of the anatomical museum, recently visited in Chicago on his way to Madison, Wisconsin, where he received the honorary degree of LL. D. It was rumored that Dr. Spalteholz was slated to take the professorship of anatomy in the University of Chicago, left vacant by the resignation of Prof. Barker, but this was denied by both Prof. Barker and Spalteholz.

Dr. W. A. Montgomery, of Chicago, special agent of Physicians' Defence Co., of Ft. Wayne, Ind., recently visited in Springfield and wrote twenty-five policies for that company.

Marriages and Deaths.

MARRIAGES.

Herbert T. Barnes, M. D., Chicago, to Miss Olive Morefield of Elkhorn, Wis., June 7.

George Edwin Baxter, M. D., to Miss Cecile Maude Hitchcock, both of Chicago, June 7.

Ora J. Culbertson, M. D., to Miss Louise Leber, both of East St. Louis, Ill., May 25.

John Nellis Daly, M. D., Orangeville, Ill., to Miss Maude Hoyman, of Freeport, Ill., June 1.

Dr. J. C. Hall of Decatur, and Miss Clara Turpin, of Oreana.

Howard Roy Hess, M. D., Sidney, Ill., to May Katherine Gilmore, of Rock Island, Ill., June 8.

Coleman L. Hoffman, M. D., Rockton, Ill., to Miss Sarah Olivia Paine, of Iowa City, June 1.

O. P. Hopping, M. D., to Miss Bertha Zella of Mount Pulaski, Ill., at Girard, Kan., May 24.

Edward M. D., to Miss Sadie Clohesy, both of Chicago, June 7.

Emil Lofgren, M. D., to Miss Alina Nelson, both of Rockford, Ill., June 7.

H. N. Moyer, M. D., to Mrs. Ella E. Myler, at St. Joseph, Michigan, Friday, June 2, 1905.

Louis E. Schmidt, M. D., to Miss Marie Mansfield, both of Chicago, June 1.

DEATHS.

Julia A. D. Adams, M. D., Ohio, 1871, died in Palos Park, Ill., May 30, aged 74.

Joseph N. Black, M. D., Rush Medical College Chicago, 1883, a member of the Adams County Medical Society, died at his home in Clayton, Ill., June 8, from an overdose of morphine, aged 45.

William Hale Burns, M. D., for many years a practitioner of Richview, Ill., died at the home of his son in San Jose, Cal., from senile debility, May 18, aged 84.

Harry H. East, M. D., Barnes Medical College, St. Louis, 1890, of Xenia, Ill., while suffering from melancholia, cut his throat at the Alexian Brothers' Hospital, St. Louis, and died June 2, aged 45.

W. C. Johnson of Springfield, died at the St. John's Hospital, June 13, of obstruction of the bowels, caused by an enterolith, aged 66 years. Dr. Johnson had resided in Springfield for seven years, having resided and practiced at Pawnee since his graduation at Rush Medical College in 1869.

Henry Wagner Kreider, M. D., Rush Medical College, Chicago, 1856, died at his home in Galesburg, Ill., May 25, after a short illness, from senile debility, aged 86.

John Kossuth Oshrey, M. D., (years of practice, Illinois), died at his home in Cisne, Ill., May 26, aged 80.

Chauncey B. Ostrander, M. D., (years of practice, Illinois), 1881, a practitioner of Fairbury, Ill., since 1850, died at his home in that city May 30, aged 87.

Dr. Jesse H. Smith, M. D., of Carlinville, died at his country home, six miles west of the city, June 26, aged 80 years.

Dr. Smith who was also a minister in the Christian Church combined the two vocations and practiced in a number of the towns in central Illinois since 1852. He had been an invalid for seven years.

Charles A. Wean, M. D., Detroit Medical College, 1885, died at his home in Chicago, May 28, from septicemia, after an illness of 10 days, aged 40.

Cruelties of Science.

The Anti-Vivisectionist—"And when you do lure a poor dog into your laboratory and cut him up what do you gain by it?"

The Surgeon—"Millions—of fleas."—Le Rire.

After a Remedy.

"Molly," he said, as he limped in the gate, "I've been snake bit."

"John," she replied, "if you want the whisky, fer the Lord's sake, don't lie about it. The jug's in the sideboard."—Atlanta Constitution.

Still Another System.

Automobilist (recovering from injury)—"Isn't that a pretty stiff bill, Doctor?"

Surgeon—"You don't suppose I'm going to let the repair men do all the getting rich out of this business, do you?"

The Age of Hurry.

W. D. N. has written for the Chicago Tribune a poem taking off the modern fad of haste and refers to the professions in the following stanza:

Send for a lawyer, a nurse, and physician—

I must get busy; I fear I am ill:

Legacy, medicine, powders, and mission,

Don't get prescriptions mixed up with my will!

What! I'll be all of a month in succumbin'?

Doc, it's amusing to hear how you speak.

Nowadays people and things must go humming—

I'll bet a dollar I die in a week!

Chicago Medical Society.

The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building. Membership 1512.

OFFICERS:

J. B. MURPHY, 100 State Street President
FRANK X. WALLS, 4307 Ellis Avenue Secretary
A. E. HALSTEAD, 2937 Indiana Avenue Treasurer
W. A. EVANS, 103 State Street Chairman Medicolegal Committee
WM. HARSHA, 103 State Street Chairman Membership Committee

JULY, 1905.

At the regular meeting of the Chicago Medical Society held Wednesday, April 26th, a symposium on Gonorrhea was given, papers being read by Drs. D. Lieberthal, R. R. Campbell, W. T. Belfield, L. E. Schmidt, F. Leusman and G. Kolischer. None of these papers have been received. They were discussed as follows:

Discussion of the Symposium on Gonorrhea.

Dr. Arthur Dean Bevan: I would like to ask either Dr. Kolischer or Dr. Belfield as to the frequency of one complication of gonorrhoea which was not mentioned, but which occurs more frequently in the practice of the general surgeon, and that is rectal stricture. Stricture of the rectum is probably ten or twenty times more frequently found in the female than it is in the male. Syphilis, I think is considered the most common cause of stricture of the rectum, and as being more frequent in the male than in the female. I am rather inclined to believe that most textbooks make the statement that syphilis is the common cause of rectal stricture of a benign type. For some years I have followed the pathology of rectal strictures which I have had in my clinic with a good deal of interest. I have noted the fact that they were very common in women, exceedingly rare in men; that they were common in women who had led a rather promiscuous life more than in married women, although they occurred frequently in married women where they were perfectly innocent, and I have been impressed with the fact that gonorrhea, and not syphilis, is the common cause of rectal stricture.

I have had the opportunity in the last year of observing gonorrheal proctitis in the female, and the formation of gonorrheal rectal stricture, and I have been fully convinced that gonorrhea is the common cause of rectal stricture, and not syphilis. I feel that the explanation is simple. Just as the complications have been traced from the female urethra to the vagina, then to the cervix, and subsequently to the tubes and ovaries, so I think we must add this last

complication, which I think is exceedingly frequent—invasion of the columnar epithelium of the rectum in the female by the gonococcus. I have not seen very much gonorrhea in the ordinary cases for many years. When I graduated in medicine and went into the Marine Hospital service, for a time I saw a great many cases of gonorrhea. About one-third of our cases in the Marine Hospital service were largely instances of gonorrhea and its complications. For some years I have seen almost no acute cases, and I am inclined to think that our urological brethren have become such experts in the handling of these cases that the ordinary general surgeon's advice and opinion are no longer sought. At least, I would offer that as an explanation.

I would like to ask Dr. Belfield whether he believes the so-called modern treatment of gonorrhea we have heard of tonight is more effective than the former treatment of the disease? I would also like to ask him if he believes that complications following gonorrhea are any less frequent now than they were in 1883, for instance, and if, in his judgment, there has been developed a method of treating gonorrhea which is more successful than the methods which we employed twenty-five years ago.

Dr. A. W. Baer: About fourteen days ago there came to my office table a very nicely worded brochure on the use of a proprietary medicine for gonorrhea. It is one of the things that was first advertised to doctors until they began to use it; then the laity got hold of it, and the doctors make an outcry if the druggists are prescribing it. I think doctors are more responsible for some of the proprietary remedies that are used in gonorrhea especially than anybody else. They come to this society and hear a paper read which sounds very much like the original, and if a man has used it and some of his results are not equal to what I get by the ordinary treatment, he is applauded by the doctors.

The American Medical Association through its Journal is trying to cut off the use of proprietary remedies; at least, they are not beneficial, or they do harm, at any rate, and a few men in some of our societies come forward and advocate the very things we are trying to stop. There is no question as to what Kawa-Kawa and oil of sandalwood will do, and when we stop to think, we know what it is and why patients ask for more.

In expressing my feelings in this matter, I do not want to hurt the feelings of others, but I simply wish to call the attention of the Society to these facts, and I wish to thank Dr. Belfield for coming out so vigorously against the gynecologist who sees gonococci as large as fleas in pretty nearly every disease he comes across.

Dr. A. W. Baer: I do not think the remarks that I previously made would indicate that I thought the gentleman (Dr. Lieberthal) would be approachable by the manufacturer of a proprietary remedy, such as the one referred to. Several times since I have been a member of this Society, matters of this kind have come up, and being an ex-pharmacist myself, I have seen the hardship created by some of the leaders in medical colleges against pharmacists using these preparations.

(Here the speaker was called down by the Chair, who said that his remarks were not pertinent to the subject under discussion.)

The regular meeting of the Chicago Medical Society was held May 10, 1905. A paper presenting cases was read by Dr. J. Grinker. The cases were:

I. (a) Case of Raynaud's Disease with Rheumatoid Arthritis.

(b) A Case of Generalized Tic Convulsif.

(c) A Case of Ataxic Paraplegia (Strumpell type.) J. Grinker.

II. Subparietal Injury of the Kidney, with exhibition of a case. William Fuller.

III. Exhibition of Cases of Tuberculosis of the Knee-Joint. John Ridlon.

IV. Demonstration of Surgical Cases. D. N. Eisendrath.

V. The Leucocytes in Whooping Cough. Drs. C. G. Gurlee and D. B. Phemister.

Exhibition of Patients.

Dr. J. Grinker: This patient presents a typical case of Raynaud's disease. She now shows beautifully the stage of local asphyxia. As you look at her you will see how the finger tips get blue; at times they are perfectly white (stage of local syncope), then they feel like ice and gradually get blackish blue and then warm. This is an extremely interesting picture; you do not often see cases when they present characteristic discolorations. She has typical dead fingers. When she comes to my office on a chilly morning she shows them exquisitely; for a while they are white, then they become bluish or purple. Sometimes her fingers are burning hot.

A great many cases have been reported, and shown, as Raynaud's disease, when they really were something else, but this case is typical, and I have seen no better picture in the books.

Besides Raynaud's disease, she has another disorder and I do not know that it stands in any relation to the former disease; that is, she suffers from rheumatoid arthritis. We are told that some cases of Raynaud's disease present enlarged joints, and even ankylosis, but they are mostly temporary swellings and cannot exactly be called rheumatoid arthritis. The history of this case proves that it is a case of rheumatoid arthritis independently of Raynaud's disease; practically two diseases in one patient. Her family history is as follows: Her father has a great deal of rheumatism and her mother died at the age of 63 of heart disease. She has healthy brothers and sisters. She herself has always been in delicate health, but never had any serious disease. At the age of 12 she developed some eye trouble. The left eye became affected first, then the right, and lastly her left knee became swollen. This lasted for six months, when she got well. Towards the end of last summer she had some serious disappointments and shortly thereafter developed this peculiar condition of the joints; swelling and pain, first in the phalangeal then the metacarpal joints of the left hand, then of the right, then it involved the tarsal and metatarsal joints of the foot, so much so that she had a great deal of pain, and this condition was thought to be rheumatism and treated as such. She has suffered in this way for six months, without any improvement.

There is also joint deformity and difficulty in walking.

There can be no doubt that this is rheumatoid arthritis. Last November she complained of cold fingers but thought it due to poor circulation, and only six weeks ago she discovered that at times her fingers would get perfectly white. When she consulted me my attention had not been attracted to her real condition until the next visit, when I discovered a case of Raynaud's disease.

You can now see her foot. Here the joints are stiff and you can hear an occasional crackling. Her toes are usually colder than they feel at present and present the same condition as in the fingers, including the rheumatoid arthritis which you can see in the tarsal joints.

The next case I intended to show was one of generalized tic. However, the patient has another engagement and did not come. She is a girl of 19 and presents a typical case of generalized tic, with echokinesia and echolalia.

The case before you demonstrates certain phases of tic only, the entire picture is not that of tic. He shows so much of Huntington's chorea that he might easily be taken for a case of that disease.

He is 55 years of age, has not had any disease worth mentioning. His family history, however, is very suggestive of a strong neuropathic tendency. For instance, his father was drowned and his mother ran away with another man, leaving the patient alone with strangers when he was a mere baby. One of his uncles, an old soldier, had peculiarities, was eccentric, and considered insane; as he walked along the street he began to jerk; then he would place his cane on the floor, step over it, pick up the cane

and then walk on as well as ever. A son of this uncle died in an insane asylum.

The patient before you showed peculiarities all through life. For instance, he marries, brings up a family, and ten years ago separates from his wife in order to follow the Salvation Army. He is a so-called testifier in the army; carries a flag and occasionally testifies to the fact his soul has been saved. Twice he has seen the Savior face to face. He is quite certain of that. About four years ago, while living in Denver, he slept in a cold bed, and as a result of this commenced to jerk. At first the jerking was in the shoulders, then it began in the hands, but he could still attend to his vocation. For about three years this was getting worse, until about a year ago, when he was compelled to give up his business because, as he expresses it, his mind gave way, that is, he could not remember things and was unable to concentrate his attention. Now he is entirely useless, cannot even do army work. While he is sitting here you have an opportunity to observe his movements. What you will notice particularly about this man is that his movements are all large and appear to be purposive. At first he could control his movements by holding down one hand with the other. Now this is impossible. When he is excited the irregular movements are worse. Another thing: he wrinkles his forehead occasionally and emits a certain sound, as you notice. I do not know why he does this; he says it makes him feel better. In ordinary conversation he keeps on repeating the last few words of each sentence. I will now ask him to extend his arms and spread his fingers.

If we analyze this man's movements, you see he begins with small irregular jerks and gradually develops the large movements. Eventually his legs become involved.

He presents the appearance of so-called tic because the movements are large, because they appear to be purposive and because they are rather rapid as compared with ordinary chorea. But, after all, considering his history and his age it must be classed among the degenerative type of chorea, with an admixture of tic. It is not a clear type but is a little of both. Books on chorea mention such cases and quote similar histories, and class these cases among the degenerative choreas. Although, if we could elicit a history of the patient having had some form of tic in his early childhood, then improvement, and later developed these generalized movements, it would be proper to call it generalized tic. I have been careful in going over his history, and he says he never had a jerk nor a tic until the beginning of this present trouble. This case is interesting from the point of view that it does not correspond entirely to chorea nor to tic. He has not been worse within a year.

This man I present as a case of ataxic paraplegia, Gowers and Struempell's type. There is another type which Putnam and Dana have described and is called subacute combined cord degeneration, of which variety I have shown a case in this Society about a year ago. In that case there was anemia. This patient presents no anemia. It is a rather chronic condition of

about two and one-half years duration. It began with numbness and tingling in his lower extremities from which he suffered constantly, but this did not interfere very much with his occupation until after a while, when his legs began to get stiff and clumsy and later there was also a certain degree of unsteadiness. For instance, when on a pile of gravel, he could not easily get over it; he would sometimes fall, because he would lose his equilibrium. It was evidently a disturbance of coordination. As regards the history of specific infection, he tells of a venereal sore not followed by any secondaries. Bladder disturbances some time after the incoordination came on and he now has trouble in starting the stream. There is absolute constipation. He has a feeling of numbness and tingling in his fingers and a peculiar uncomfortable sensation in the small of his back, a sort of pressure. As he walks you notice a certain amount of spasticity, and he constantly watches the floor; there is in addition a certain amount of incoordination. You also notice that he scrapes the floor considerably and walks with feet wide apart. As he stands with eyes closed you see the ataxia increase. He also has ataxia in the upper extremities, but only in a slight degree. With eyes closed he cannot quite touch the tip of his nose nor can he approximate the tips of the index finger. He has an ankle clonus. Babinski is rather uncertain. There is exaggeration of all the deep reflexes. He also has a patellar clonus.

The sensory disturbances must be attributed to involvement of the posterior columns. The exaggeration of the reflexes and the spasticity must be accounted for by disease of the pyramidal tracts, so that this man must have a combined cord sclerosis of gradual onset; it belongs to the chronic type of so-called posterolateral sclerosis, commonly called ataxic paraplegia.

Dr. H. N. Moyer: The case of so-called tic convulsif I saw in the County Hospital. The distinction between tic and chorea is well brought out in the case. The exhibition tonight is a little exaggerated. The movements are typical of chorea. Tourette and his followers in their descriptions of tic have made this distinction, and to my mind it is fundamental. The movements of the tiquer are essentially normal, and the tic is merely an exaggeration of what is physiological. The twitching of the eye, jerking of the nose, twitching of the corner of the mouth are simply the ordinary movements of expression, but they are exaggerated and out of place. When that becomes generalized the same character of the movements persist. On the contrary the movement in chorea is rhythmical and is constant. This man exhibits the choreic movement far better when he is lying down than in any other position. A tiquer is free when lying down. There is no interval of rest in this man, there is a distinct period of rest in tic convulsif. Is there real value in making a distinction between a tic and chorea? The French school says there is, and the value is this: the tiquer is a neuropath, but is not necessarily on the road

to organic degeneration. All these late choreas are accompanied by organic changes in the cortex and are incurable. I have seen eight or ten cases of chorea coming on in individuals past 40 years of age. If there was a history of the disease occurring in some other member of the family it would be proper to call it Huntington's chorea.

Dr. Grinker, in closing the discussion, said: Dr. Hecht discusses Raynaud's disease from the point of view of a typical case with its three stages. I stated that my patient represents a typical case of Raynaud's disease, but I had in mind the cases we ordinarily see. Symmetrical gangrene is not very common. This patient has not had symmetrical gangrene as yet; but she may still have it.

About the dead fingers: I have seen them when she came to my office about 10 o'clock in the morning two or three weeks ago, and even one day last week she produced a beautiful example of the dead white fingers.

I am glad Dr. Hecht spoke of hemaglobinuria; I have inquired several times and have examined the urine, but did not find it in this case; one should always look for that.

The difficulty with her vision at the age of 12 appears to have been rheumatic, because almost simultaneously the left knee became involved and remained swollen and she was disabled for the following six months.

What the particular nature of the eye trouble was I do not know. She certainly did not have Raynaud's disease at that time.

In the case of generalized tic, you notice I was very conservative; I said, this man presents symptoms of tic. This was not the case I intended to present tonight, but this patient undoubtedly presents certain of the characteristics of generalized tic, but considering his age, considering that he is mentally feeble and is getting more so every day, I think we are logically driven to class him among the degenerative choreas. Dr. Moyer is not the only one who inclines to that opinion. I simply wish to emphasize that this man presents a mixture of both tic and chorea. It is well known that tic and chorea merge into each other occasionally, when it is difficult to determine where one begins and the other ends. For instance, that patient recovers from ordinary chorea and all at once begins to develop a genuine tic convulsif. In conclusion I wish to thank the members who kindly participated in the discussion of my cases.

Discussion of Dr. Fuller's Paper.

Dr. A. D. Bevan: There is one point I should like to emphasize in connection with these cases, and that is the value of making the exploratory operation, if it is decided upon, under nitrous oxide anaesthesia. I have had an opportunity of doing an exploratory operation on the kidney in about a dozen cases under nitrous oxide anaesthesia, most of them being cases that required in addition to the exploratory a nephrotomy, usually for drainage. I think the point is important, because if the kidney is seriously injured an exploratory under nitrous oxide anaesthesia does not injure the integrity of the

remaining kidney substance nearly as much as does the use of other general anaesthetics, such as chloroform and ether, and if it is found that the operation cannot be continued under the nitrous oxide anaesthesia of course chloroform or ether may be added. I will say, however, that with a little care and a sufficient amount of nitrous oxide a patient can be kept under this anaesthetic entirely for from 15 to 25 minutes, or even longer, and I would emphasize that as a practical point in this work.

Exhibition of Cases.

Dr. John Ridlon: At the meeting of this Society a week ago we were unable to complete the program and Dr. Eikenbary's paper was not read, and no cases were shown from the standpoint of an orthopedic surgeon, but from that of a general surgeon some were shown. I want to show tonight four cases illustrating the condition from an orthopedic standpoint.

I first saw this young man nine years ago. He had had treatment for more than a year by iodoform injections given by a very eminent professor of surgery in one of the medical colleges, and he had grown progressively worse under the injections. He had a very large, tender and flexed knee. I treated him for five years. He had no iodoform injections. Here you will see scars from abscesses that formed and broke; all these without surgical interference. I have not seen him professionally since October, 1901, nearly four years ago. He has a good and useful knee joint, a better knee joint than if he had had excision, and better than some of those that were shown, despite the fact that he had iodoform injections for a year before he came to me.

This little girl I first saw in 1898, seven years ago. At that time she had a right angled deformity of the knee joint, enormous enlargement, very great sensitiveness, and in addition a right angled deformity of the spine. The spine brace has been off for a year or more. I am using a knee brace simply as a protection. I will have her walk to show you her gait. It is entirely possible, you see, to make a right angled deformity at the knee, with no motion, straight without iodoform or a cutting operation. I do not consider this a very good result, there is a little motion, not much, I do not expect she will have much.

This boy I first saw in April, 1897, eight years ago, and I saw him last professionally in July, 1899. He had two abscesses and flexion deformity when he came to me. The first one opened spontaneously, discharged and closed up. About a year afterwards a second one formed near the same place, discharged spontaneously and closed up. The knee itself was enormously distended. He had no iodoform injection. The leg is now straight and has normal motion.

This boy is a mate of one that did not come. I first saw him in January, 1902. He had been hurt five months before that and had been treated most of the time with plaster splints. At that time all the bony outlines were lost, there was pulpiness all around the knee joint and some restriction to motion, but no permanent

flexion deformity. I last saw him in December, 1903. He was under treatment from me for two months with a plaster splint, after that with a Thomas splint. The result is now perfect.

The regular meeting of the Chicago Medical Society was held Wednesday evening, May 24, 1905. The following papers were read:

1. Presentation of Specimens from a Case of Echinococcus Disease of the Heart and Lungs. C. G. Grulee.

2. Presentation of a Case of (a) Essential Myoclonus. Drs. Swan and Hecht. (b) Case of Acromegaly. D'Orsay Hecht.

3. The Choice of Method in Operating on the Hypertrophied Prostate. Dr. Willy Meyer of New York.

4. Some Clinical and Experimental Considerations of Surgical Hemorrhage. Dr. George W. Crile of Cleveland, Ohio.

5. The Important Points in the Technic of Perineal Prostatectomy. A. J. Ochsner.

6. Destroying the Pelvic Diaphragm as a Means of Releasing the Constricted Prostate. A Substitute for Prostatectomy. E. Wyllys Andrews.

Further discussion by Drs. L. L. McArthur and G. Frank Lydston.

There was a symposium on operations on the Prostate which was participated in by Drs. Willy Meyer of New York, G. W. Crile of Cleveland, O., A. J. Ochsner and E. Wyllys Andrews of Chicago.

Dr. Ochsner's paper will be found on page 46 of this issue. The discussion on this symposium was participated in by Dr. G. Frank Lydston and A. H. Ferguson.

A Case of Echinococcus Disease of the Heart and Lungs.

(From the Wards of Cook County Hospital, Chicago.)

By C. G. Gurlee, A. M., M. D.

So far as I am able to discover only seven or eight cases of echinococcus disease of the lungs have previously been reported in this country and no case of echinococcus disease of the heart. As rare as echinococcus disease is in the United States, there have recently occurred, at least four other cases in Chicago. Dr. Schroeder presented to the Chicago Surgical Society a case of generalized echinococcus disease of the peritoneal cavity and Dr. Miller informs me that within the past few years there have been at the Presbyterian Hospital three patients who have expectorated hooklets, or portions of the cell membrane, or both.

Lizzie P. 27 years old, entered Cook County Hospital, April 2, 1905, on the service of Dr. Miller. She was a native of Italy, from which country she had emigrated the previous year. She could talk no English, and, as a consequence, the history of the case is very imperfect. We learned, however, that she had been troubled for four months with cough, pain in the chest and an abundant expectorate, which at times, had been bloody. She complained of nausea and vomiting and had lost forty pounds in weight. Examination showed a much emaciated young woman who could not speak

above a whisper and whose facial expression was that of fear, the eyes being wild and staring. Tongue dry and fissured. Heart, on percussion, showed dullness from the right border of the sternum to $\frac{3}{4}$ inch to the left of the nipple line and above as high as the third rib. At the apex a loud, rough systolic murmur was heard, while over the pulmonic area there was also a loud systolic murmur. The lungs showed dullness anteriorly and posteriorly over the right upper lobe with some dullness posteriorly over the left upper lobe. Low, down, posteriorly, just to the right of the vertebral column was a small area, about the size of the palm, over which the percussion note was somewhat tympanitic. On auscultation moist rales and bronchial breathing were heard over the right upper lobe and a few mucous rales over the middle lobe; some bronchial breathing was heard over the left apex and a few moist rales in the left axillary region. In the abdomen was felt a pregnant uterus reaching to the umbilicus, fetal movements being observed. Vaginal examination showed the usual signs of pregnancy.

From the lung findings a diagnosis of pulmonary tuberculosis was made which examination of the sputum confirmed. During her stay in the hospital her cough was very violent and she expectorated large quantities of purulent material. Only once did her temperature rise above 99 degrees F. and at that time was only 99.6 degrees F. Her pulse ranged from 96 to 128. The most noticeable symptom was the extreme dyspnea. Once her respirations were only 20 to the minute but this was only for a short time, most of the time the respirations being from 40 to 60 per minute. In order to get sufficient air, the patient was compelled to sit up in bed and then her breathing was very labored. On the fifth of April the patient coughed up a small cyst, about one centimeter in diameter. This was unruptured and showed what seemed to be subcysts. The fluid of this cyst failed to show any hooklets but a large number of the small round bodies found within the echinococcus embryo were seen. The wall of the cyst showed the characteristic laminated appearance. After this the sputum was examined several times for hooklets but without success. On the morning of the tenth the blood showed 2,886,000 red blood corpuscles, 19,000 white blood corpuscles, of which 88.3% were polymorphonuclears, 7.8% large mononuclears, 3.9% small mononuclears, no eosinophiles, hemoglobin 80% (Talquist). The patient died suddenly at 6 P. M. the evening of the tenth and immediately afterward the child was delivered through a median abdominal incision. Child breathed once or twice and then died in spite of all efforts to revive it.

On the morning of the twelfth an autopsy was held. It was not permitted to open the cranial cavity. Thorax: No fluid was found in the pleural cavities; the left was free from adhesions but the right apex was firmly adherent to the thoracic wall. Throughout both lungs could be palpated rounded masses, some nearly as large as hen's eggs. The left lung

crepitated throughout but the right upper lobe was almost solid and in the middle and lower lobes could be felt hard, shot-like bodies, irregular in outline. On section the left lung showed several large echinococcus cysts throughout both lobes varying in size from that of a pea to that of a hen's egg. No focus of tuberculosis was found in either lobe. The right lung, on section, showed practically the same distribution of echinococcus cysts, if anything, the number being slightly greater. The entire right upper lobe had a honey combed appearance, more marked in the upper than in the lower portions and gave off a caseo-purulent material. Disseminated tuberculosis existed in the middle and lower lobe. The area of tympany previously described was found to be just below a large cyst located in the upper posterior portion of the right lower lobe. This sign is considered characteristic by Behr. This cyst was removed without rupturing. Examination of the fluid showed the absence of albumen and sugar and the presence of a large amount of sodium chlorid microscopically, the fluid contained many proligerous vesicles, in which the characteristic echinococcus embryos could be seen. The wall had the characteristic laminated appearance and on its internal surface were seen numerous daughter cysts. In removing this cyst the fingers became covered with a thick viscid material, the pericystic fluid. The lung tissue surrounding the pericystic cavity showed a thin connective tissue layer, in which there were numerous small blood vessels. Some of the larger cysts in the right lung had become infected, the cystic fluid being purulent. A smear of this fluid showed a pure culture of streptococcus. Several of the cysts connected directly with a pulmonary vessel, showing that the infection was by way of the blood. In the lung substance numerous typical tubercles were seen. The central portions of the lungs were nearly free from cysts, most of the latter occurring peripherally in the lung substance or just beneath the pleura. The peribronchial lymph glands showed caseous and calcareous degeneration. On examination the heart was found to be free from change except for the presence of a cyst the size of a pigeon's egg in the posterior wall of the right auricle. This cyst had ruptured internally and a clot was found adherent to its endocardial opening. When this clot was removed several daughter cysts varying in size from a pin-head to a pea escaped into the cavity. The walls of this cyst seemed dryer and harder than those of the lung. A section through the cyst and heart walls showed that the musculature of the latter had undergone no appreciable change but there was a thin layer of fibrous tissue between this and the cyst wall. The stomach and intestines were not removed but careful external examination failed to show any trace of echinococcus disease in these organs. The mesenteric glands were enlarged. The liver showed slight connective tissue increase but no evidence of echinococcus. The spleen showed no change. In the kidneys was observed a slight degree of chronic parenchymatous degenera-

tion. The uterus showed the characteristics of the pregnant uterus at six months, the placenta being attached to its posterior wall. No trace of echinococcus disease was seen in other organs than the heart and lungs.

The case is probably one of primary echinococcus disease of the heart, with secondary infection of the lungs. This is suggested (1) by the diffuse infection of the latter, (2) by the peripheral location of the cysts in the lungs, (3) by the intimate connection of certain of the cysts with pulmonary vessels, (4) by the presence of daughter cysts in the cyst in the right auricle and (5) by the fact that the pulmonary tuberculosis was all on the right side while the echinococcus cysts were about equally distributed between the two lungs.

I wish to thank Dr. J. L. Miller for his assistance and for his permission to report the case and Dr. Norcross for furnishing me with the microscopical report.

Discussion.

Dr. G. Frank Lydston: We have had such a wealth of surgical information on the prostate tonight that it would not be fair to attempt to discuss in detail all of the points brought out. A point that impressed me very forcibly in Dr. Meyer's excellent paper was the fact that he, one of our most advanced operators, is completely in line with the idea that the routine application of any operation to the enlarged prostate is not good surgery. I congratulate Dr. Meyer upon his courage in bringing out this point.

Some of the enthusiastic reports which have been published on perineal prostatectomy are calculated to delude one into the belief that routine operating is possible. Several papers have recently been published in which prostatectomy was so simplified that if one were to believe everything he reads he would be compelled to conclude that no operation other than perineal prostatectomy is justifiable. The surgeons present will doubtless remember two operations recently described by prominent Eastern surgeons in which the prostate is pried out of a short perineal incision, so that it protrudes very much as might a baseball. Such descriptions of operations have something of a commercial aspect.

With reference to the selection of an operation, I think that even many of those who at first accepted either the perineal operation, on the one hand, or the suprapubic, on the other, as the operation of election, are gradually coming to understand that the selection of a method is determined by the mechanical conditions present.

Dr. Meyer spoke of certain tumors which develop upwards and backwards into the cavity of the bladder. In many of these cases an operation cannot be done successfully by the perineal route.

I recall a case of this kind in which it was impossible to reach the tumors through the perineal incision. Even after suprapubic section, it was very difficult to reach the fundi of the tumors.

In regard to the relative merit of suprapubic and infrapubic operations, I take this opportunity to state that were I compelled to take my choice between a perineal operation performed by a man of average skill and experience and the suprapubic operation performed by an expert in the performance of the latter operation, I should certainly submit to an operation by the suprapubic route.

I think most surgeons will agree that an operation by such men as Reginald Harrison, Keegan and Freyer, of London, who are strenuous advocates of the suprapubic method, would be preferable to the perineal operation in some hands. Much depends in the performance of the operation upon the education of the surgeon's finger.

In regard to the galvano-cautery method, it must be acknowledged that Dr. Meyer has made a strenuous effort to save his favorite child. I do not think, however, that he has made out a very good case. It occurs to me that there is a little of sophistry in his reasoning. When the Bottini operation is advised where the patient objects to the knife, the patient should not be allowed to believe that the cautery operation is without danger. It is possible that if the dangers of the cautery operation are fairly presented to the patient, it will be rather exceptionally chosen. It cannot be fairly urged that the Bottini operation is a substitute for prostatectomy, for, in the majority of cases in which the cautery operation is the one of election, prostatectomy is not feasible anyway. I believe that Dr. Meyer is correct in the view that the cautery operation has a certain range of application. I think, however, that the combination of perineal section with the cautery is a much more rational procedure than the orthodox Bottini.

With reference to impotency following the operation, I believe that in many cases in which the patient claims to be impotent as a consequence of the operation the latter should not be held responsible. In a considerable proportion of these cases the potency which existed prior to the operation was a minus quantity. The patient is often rather sensitive upon the point in question, and prefers to lay at the door of the surgeon a responsibility which does not belong there.

In a fair proportion of cases operated upon early it is possible to avoid serious injury of the prostatic floor by entering the capsule through the lateral wall of the prostatic urethra upon either side. I think that most surgeons of experience will recall a sense of surprise in certain cases of prostatectomy at the capacity of the prostatic urethra above and below the lateral enlargement. In many instances it is possible to shell out a lateral tumor and subsequently a median tumor, without inflicting serious traumatism upon the prostatic floor. It should be remembered that it is important to preserve as much of the mucous membrane of the prostatic urethra as possible, and it is of especial importance to preserve the important structures of the prostatic urethral floor.

Referring to my friend Dr. Andrews' ex-

tremely iconoclastic paper, I perhaps did not follow him with sufficient care, but I failed to note any substantial evidence of the practicality of his method, or of its beneficial results. The operation, as he describes it, is by no means a simple one, and according to his own statements presents considerable danger of hemorrhage.

I would regard with some suspicion any evidence in its favor based upon a small number of cases. Surgeons will recall that the Ramm-White operation of castration received very high commendation, and that voluminous favorable case records were published. The fate of that operation everyone knows.

Dr. Andrews' departure is a very radical one, and I have no doubt it will receive considerable attention, but I firmly believe that it is destined to occupy a niche in the surgical dead lumber room, along with the Ramm-White operation.

I cannot understand how the lowering of the pelvic diaphragm is going to radically change the relations of the vesical orifice to the deformed prostatic urethra. The operation may perhaps alter the relation of the vesical orifice to the obstructed prostatic urethra to a certain degree, but the tipping of the prostate will not alter the abnormal conformation of the prostatic urethra.

Dr. Andrews states that in his opinion pressure external to the prostate causes the urinary obstruction. An inspection of the interesting specimen presented by Dr. Meyer should convince anyone that external pressure could have had little or nothing to do with the obstruction of the urinary way which the tumor produced.

In cases in which there are not only two lateral lobes, but a large median tumor, the distortion and narrowing of the prostatic urethra are important elements which I do not believe the Andrews operation would change in the least. It is to be remembered that any operation which is followed by rest in bed for a considerable period is likely to produce considerable benefit—temporary, at least. While it is somewhat of a digression, I will take the liberty of recounting a case which shows the effect of prolonged rest upon the enlarged prostate.

Some five years since I performed a suprapubic operation for stone in a case of an old gentleman with enlarged prostate. The patient's general condition was so bad that I did not deem it wise to perform a prostatectomy at that time, but left a permanent suprapubic fistula. I have tried at various times since the lithotomy to induce the old man to submit to prostatectomy. I examined the prostate frequently for several years, and while it had diminished somewhat in size, it was still enormously enlarged, and so hard and nodular that for a time I was a little suspicious that the tumor might be malignant. It was impossible without considerable force to pass instruments into the bladder. About two weeks ago he came to my office and before I examined him I again urged prostatectomy. He said: "No, I simply want my bladder irrigated." I irrigated through and through from the meatus to the suprapubic fistula which I had established at the time of

the operation. I found that both the fluid and a large sound passed readily into the bladder, and that the prostatic enlargement had practically disappeared.

With reference to the point brought out by Dr. Meyer as to the relative frequency of carcinoma of the prostate, I am satisfied that primary prostatic carcinoma is much more frequent than is ordinarily supposed. I have seen four of these cases within the last year, in which the diagnosis was positive. In one case, in which I gave a diagnosis of carcinoma of the prostate, the patient and his friends decided on an operation against my advice. Several surgeons combined in an onslaught on the tumor, and it was discovered to be an inoperable carcinoma.

I have learned to be very suspicious of cases of prostatic enlargement in which the symptoms are comparatively recent and the patient of moderate age, where there is more or less hemorrhage, severe backache and pain reflected to the genito-crural nerve on one or both sides; and also cachexia and marked loss of flesh. When, in such a case, the prostate is nodular and very hard, the suspicion of primary carcinoma is justifiable. In some cases it is possible to make a diagnosis from the clinical features alone, although I admit that the microscope is the crucial test.

Discussion.

Dr. A. H. Ferguson: It is now quite late and it would not be wise for us to inflict a punishment upon our guests by prolonging this discussion.

The work of Dr. Willey Meyer on the prostate has attracted my attention ever since his first paper appeared. I think the stand he has taken tonight only proves to us what a true and noble surgeon he is.

The paper of Dr. George W. Crile is like his work, thoroughly scientific and always linked with the practical.

I take great pleasure in moving a vote of thanks to Dr. Willey Meyer of New York and Dr. George W. Crile of Cleveland for the able papers they have presented to us this evening.

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May 24, 1905.

Exhibition of Specimen.

Dr. C. G. Gurlee: This is a specimen of ulcerative endocarditis, obtained at the County Hospital this morning. The patient was a colored man, 33 years of age, semi-comatose when admitted and died 36 hours later.

The specimen shows a markedly hypertrophied and dilated heart, with ulcerated aortic valves, the ulceration affecting the adherent area and resulting in rupture. The ulceration extended through the base of the aorta, the infection traveling upwards into the pericardium, resulting in acute pericarditis. This shows the ulceration at the base of the aorta, and the pericardial surface shows a fibrinous exudate similar to one in an intestinal ulcer; also an endocarditis of the mitral valve, and there was a small vegetation on the tricuspid valve. The man had an old endocarditis, possibly due to

syphilis, possibly to rheumatism, but the fact that he had some artero-sclerosis speaks for syphilis. On top of that came a malignant infection, this ulcer forming an infarct aneurysm at the base of the alveolus, then traveling upward, resulting in the serofibrinous pericarditis. It is a question if that was not an element of safety to the man, otherwise, from the history of the specimen, there must have been a rupture. The other pathological changes were fatty degeneration of the heart, infarcts of the kidneys and liver and a slight emphysema.

Exhibition of Cases by Dr. D'O. Hecht.

(a) Acromegaly. (Manuscript.) (b) Myoclonus. (Manuscript.)

The President announced that discussion of these cases would be deferred to the next meeting of the Society, because of the long program of the evening.

Dr. Willy Meyer of New York read a paper, Hypertrophied Prostate.

Dr. Crile of Cleveland read a paper, Clinical Considerations of Surgical Hemorrhage.

Dr. A. J. Ochsner read a paper, Important Points in the Technique of Prostatectomy. See page 33.

Dr. E. Wyllys Andrews read a paper, Destroying the Pelvic Deformity as a Means of Releasing the Prostate, etc.

Discussion: G. Frank Lydston, A. D. Bevan, A. H. Ferguson.

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May 10, 1905.

Joint meeting of the Chicago Orthopedic and Chicago Medical Societies, held May 3, 1905.

Dr. John Ridlon, President of the Chicago Orthopedic Society, in the Chair.

Charcot's Joint.

Dr. M. L. Harris exhibited a man, 38 years of age, and said:

This patient presents gastric crises, sharp pains in the legs, and you may infer from his stumbling gait that there is ataxia. Upon examination we find the Argyll-Robertson pupil, loss of the tendon reflexes, and areas of hyperesthesia in various parts of the body, so that we have a typical case of tabes associated with tabetic or Charcot's joint.

Cases of Charcot's joint are comparatively common. He has no pain in this joint. He has been able to move around with this joint, notwithstanding the extensive changes that have taken place, and were it not for his ataxia, he would still be able to get around, so far as his joint is concerned.

The two principal changes which take place in these joints are those of destruction of tissues and reproductive changes. These are both very marked in this case, particularly the reproductive changes. Opposite the sides of the joint are large plates of bone resembling the side-boards of a wagon, which prevent the femur from lateral displacement, showing the reproductive changes that have taken place. You will notice that we can wobble the leg in any direction. The joint is not at all painful.

The diagnosis of Charcot's joint is usually very easily made by the slow progress of the case, the remarkable destruction that takes place in the joint, the lack of pain and the association with some spinal lesion. There is, therefore, seldom any difficulty in making a correct diagnosis.

Dr. Arthur B. Hosmer: I would like to ask Dr. Harris what treatment he intends to carry out in this case.

Dr. Daniel N. Eisendrath: I saw an interesting case of this kind in the clinic of von Billroth, in Vienna. The amputated limb was sent to the pathological laboratory there, with a diagnosis of sarcoma of the knee joint. I remember very well the words of Professor Kundrath when he examined the specimen and pronounced it a typical case of Charcot's joint. Since that time I have had occasion to see four or five cases, and have in my possession at the present time a photograph of a case of typical Charcot's joint. They have had several such cases at the Cook County Hospital, and in showing them to students their diagnosis has invariably been sarcoma of the knee joint. The mistake I spoke of as being made in the Vienna clinic shows that similar mistakes may be frequently made in these cases.

Dr. John Ridlon: Dr. Harris stated that one of the diagnostic features in these joints was the very slow development, and in this connection I wish to say that I have seen one case of tabetic knee joint in which there were no symptoms before the man sustained a fall in December, and there was marked enlargement of the joint, so that it could be easily diagnosed as Charcot's joint at the end of the second month. Other tabetic symptoms showed themselves at that time, so that it is possible for these joints to develop into characteristic Charcot's joints in so short a period of time as two months.

Dr. Hosmer has asked Dr. Harris what he was going to do about this case. I would like to answer a part of that question. Where the other knee joint is in good condition, the affected one can be splinted, so that the patient can walk just as well with this knee joint, except for motion at the joint, as he could if he had no Charcot's joint. Of course, the ataxic symptoms still remain, but the knee being painless, the case can be splinted, and the limb made useful.

Dr. George W. Hall: I do not agree with Dr. Eisendrath's statement that these cases of Charcot's joint are so frequently diagnosed at Cook County Hospital as sarcoma of the knee joint. As a rule, but few of them are incorrectly diagnosed, because of the concomitant symptoms which so invariably go with the disease. This case is interesting from the fact that Dr. Harris has made the statement that the patient has had gastric crises, and has had lightning-like pains. Gowers emphasizes the fact that we seldom get cases of Charcot's joint unless the patient has had previously severe attacks of pain, or has had some form of crisis, either gastric or some other rarer form.

Another point of interest in regard to these cases of Charcot's joint is that they resemble very much the joint changes in syringomyelia. However, in the latter disease the upper instead of the lower extremities are more frequently involved. In 75 per cent. of the cases of Charcot's joint the lower extremities are involved. It is also a fact that if we get a case of Charcot's joint in which the upper extremities are involved, as a rule it takes place later in the course of tabes than when in the lower extremities, owing to the condition which accompanies the process in the spinal cord.

Dr. Harris (closing the discussion): As to what I am going to do in the way of treatment in this case, I have not decided as yet, as I have got to talk the matter over with the patient. But the line of treatment should be to make the joint as stable as possible, considering the man's ataxic condition, and probably the best treatment that can be undertaken is to produce ankylosis, so that it will give him a useful leg to walk on. The first thought that comes to me is to give him a fixed joint to walk on, and if he will consent to it that is what I will try to do.

Tuberculosis of the Knee Joint.

Dr. Jacob Frank exhibited three patients, and said:

The three cases which I present this evening illustrate the results that may be obtained in treating a pathologic condition affecting the same part of the human anatomy and caused by the same germ—the bacillus tuberculosis. These three cases have undergone various methods of treatment, depending upon the requirements or indications of each individual case.

Case 1. Miss R., aged 29, tubercular family history.

Personal History: Began to complain of pain between the age of 8 and 9 years. Twelve years ago, when she first consulted me, her left knee was very large and painful; her general condition was very bad. From the appearance of her knee, I thought that she would lose her limb. I decided, however, to try conservative treatment first, which is my rule in all these cases. Her knee was injected with a ten per cent. Iodoform olive oil emulsion, covering a period of two years. The first six months the injections were made every two weeks, and the remainder of the time every four or five weeks. The first injections caused a violent reaction accompanied by pain, and a temperature of 103° F., which necessitated the patient's staying in bed for a week. Three months after beginning the injections the reaction was very slight, and one day in bed sufficed. When the injection was begun the knee measured 24½ inches in circumference. Before the first injection was made a saucerful of fluid was withdrawn from the joint; the second time less fluid was withdrawn. The subsequent injections were not preceded by the withdrawal of any fluid. Although the injections were continued for a period of two years, signs of improvement obtained after few in-

jections justified my persistency in continuing the treatment. The knee, as you see it this evening, has the same measurement as the normal knee—16 inches in circumference. You see by her walk that she has a useful limb, without much limp, and goes to work daily.

Case 2. Mrs. F., aged 39; no tuberculosis in the family.

Personal History: Was operated upon three times for bone disease. The first operation was performed twenty years ago in New York City on the right hand; the second thirteen years ago in Essen, Rheinland, on inner side of ankle, which never healed. Six months later was operated upon in Newark, N. J., on the outside of ankle, which healed completely in six weeks. The left knee was injected three times for a painful swelling, once at the County Hospital, and twice by himself, without beneficial result. The knee was immobilized after each injection with a plaster of Paris cast. After removal of last cast, the knee was still painful and swollen.

Operation, Dec. 1903. A longitudinal incision to the inner side of the joint. The inner tibial tuberosity contained a tubercular, broken-down focus. The femoral condyle on the same side was also diseased and contained a tubercular focus. The diseased bone, with the soft parts, was removed wherever there were any signs of disease. Iodoform olive oil emulsion, 10 per cent., was injected in different parts of the joint. The cavities were packed with iodoform gauze. The dependent parts were drained with gutta percha tissue. The knee was immobilized with a posterior splint and dressed daily. Packing was removed in five days.

In January, 1905, a swelling of the right knee was noticed. During my absence Dr. Feingold treated the knee by removing the fluid and injecting the joint with a 10 per cent. iodoform emulsion. A plaster cast was applied which was left on for three weeks. The result was excellent.

Case 3. Miss L. M., aged 10.

Family History: According to patient's statement, negative as far as tuberculosis was concerned. Previous disease none. Present illness started with pain in left knee two and a half years ago. The pain was felt in the morning and absent during rest of day. Three or four months later the pain was felt during the entire day, and some swelling of knee noticed.

The first physician diagnosed the case as rheumatism. The next physician who saw her, four months after the onset, January 1, 1902, made a diagnosis of tuberculosis and immobilized the knee with a plaster cast, which was left on for four weeks. When the cast was removed, she walked without difficulty for six weeks, when the knee started to swell, the swelling being much larger this time. May, 1902, eight months after the onset, she was taken to Wesley Hospital. The swelling at this time was quite large and very painful. She had night sweats, fever, and anorexia. The surgeon, who treated the case there, immobilized the knee in a plaster one cast which remained on for two weeks, and cast two which

remained on for three weeks. When the second cast was removed, a brace extending from the hip to the foot was employed. The brace was worn off and on, according to the doctor's directions, until October, 1903, when it had to be discarded on account of severe pain and swelling which was getting worse.

Patient consulted me Jan. 14, 1904. The left knee was three times larger than the right, and painful. The swelling extended from about three inches below the knee to the upper one-third of femur, was fluctuating, tibia movable and easily displaced. Operation Jan. 15, 1904. A horseshoe incision was made, flap dissected up, and condyles of femur, head of tibia, patella and entire joint destroyed by the disease. A large amount of pus was evacuated, which undermined the anterior muscles of the thigh, which were already necrotic. The condyles of femur and head of tibia were amputated, patella removed, including about five inches of quadriceps extensor muscles. The entire capsule was dissected away. The bones were not wired. The skin flap was partially closed; extensive drainage, consisting of rubber tubing and gutta percha tissue, was employed. A bracketed plaster of Paris, splint, re-enforced by a posterior wooden splint, was used, leaving out the knee and points of the drainage exits, to facilitate the frequent changing of the dressings. The wound was dressed twice daily, irrigated, and iodoform emulsion injected through the drainage opening. The stitches were removed at the end of the first week; the tubing replaced by gutta percha tissue in ten days; all of the drainage was out in fourteen days. The patient left the hospital four weeks after operation. Good union was obtained. She wore a light plaster cast for six weeks after leaving the hospital. Her temperature was between 99° and 102° F. for the first week, and was then normal.

It will be observed from the brief histories of the three cases, that each individual case was benefited by a different line of treatment. The ten per cent. iodoform olive oil emulsion, used in case one with good results, failed in case two, where operative interference remained as the only resort. In this case resection of one condyle and tibial tuberosity was essential. In case three complete resection of the knee, including the removal of the patella, part of the quadriceps extensor muscles and the capsule of the joint was necessary.

I think there is great danger in carrying out conservative treatment too far, as shown in case three, where the patient was in great danger of losing her limb. Case two would have taken the same course as case three had I persisted in conservative treatment.

Discussion.

Dr. Charles S. Eikenbary: I would like to ask Dr. Frank whether he used any other treatment in conjunction with iodoform emulsion?

Dr. Frank: Yes, systemic treatment. I usually give such patients general tonics.

Dr. L. L. McArthur: I would like to ask Dr. Frank how he accounts for the marked dis-

location of the patella, and whether it existed at the time the patient presented herself?

Dr. Frank: I do not remember whether it existed at the time I first saw her or not.

Dr. Edwin Ryerson: I consider iodoform injections of any tubercular joint, without proper protection of the joint during the injections, as liable to do more harm to the joint than good, as it is easy for any practitioner to squirt a syringe of the iodoform emulsion into a joint, and in so doing he is apt to omit what I consider a far more important part of the treatment, namely, fixation of the joint by immobilization. I have no personal reasons for objecting to the use of iodoform emulsion, which has cured some cases, but I do wish to utter a word or warning against injecting these cases and letting the patients travel around with a diseased hip or knee without protection apparatus.

Dr. Daniel N. Eisendrath: With reference to the point brought out by Dr. Ryerson, it has been the subject of considerable contention as to whether or not we shall immobilize these joints after injecting iodoform into them.

If I am not mistaken, the majority of orthopedic surgeons have preferred not to use any iodoform at all. I would like to have an expression of opinion from some of them on the use of iodoform without immobilizing these joints. We get excellent results, such as Dr. Frank has obtained, in these cases by systemic medication and the local injection of iodoform emulsion without immobilization of the joint, allowing the patients to walk in from forty-eight to seventy-two hours after injections are made. From four to six injections at intervals of a month will suffice for the time-being; then another injection may be given at the end of six months or a year, if there are any symptoms, and my experience is backed up by that in the extensive clinic of von Bruns, who says that with the systematic use of iodoform injections, 75 per cent. remain healed after a period of eight years in a considerable number of cases which they have followed out in that length of time, and 75 per cent. have showed no recurrence in other bones or in the knee joint. Their method consists in injecting 10 per cent. iodoform emulsion, and having the patient use the limb as soon as reaction has passed away.

Dr. John Ridlon: Dr. Frank has been led astray with regard to the early history of the girl whose case he reported. She was under my care at Wesley Hospital, and he has misled you in regard to the early history of the condition, and the conclusions he draws. When the little girl came to me at Wesley Hospital, she had a flexion deformity of 45°, with enlargement of the knee and a painful joint. In six weeks' time the leg was straight, a plaster of Paris splint was put on twice or three times, the swelling had gone down, and most of the tenderness had passed away. In short, the condition was so improved that it seemed justifiable to put on a removable splint in the place of a plaster of Paris splint, and let the little patient go out of the hospital and return at intervals as an out-patient. A Thomas knee

splint was therefore put on. She did not return and doubtless sometimes she was treated with and sometimes without a splint, for she treated herself. We treat these cases with splints until they are well and for six months to a year after they are well, but it was neglect of treatment on the part of this out-patient, who did not come for treatment as directed, which accounts for the condition at the time Dr. Frank first saw the patient. We have patients we treat as out-patients who do badly, but when they do so they are generally to blame themselves. They do badly from their own neglect, and if Dr. Frank or any general surgeon in Chicago has a knee joint or any other joint that does badly because of her own neglect, the case does not come back to him, but probably goes to the orthopedic surgeon, who then tells the same story against iodoform as does the general surgeon against plaster of Paris.

I have injected 40 cases with iodoform emulsion, but I have not injected one for the last twelve years, and I shall never inject another; in my experience this treatment has been useless and generally harmful, and Dr. Frank is to be congratulated on his good luck in these cases in spite of iodoform injections.

Dr. L. Feingold: As I am familiar with the histories of Dr. Frank's cases, I wish to state that the Doctor omitted to say that the knee in case two was injected once at the County Hospital with iodoform emulsion, and twice by himself. A plaster cast was applied after each injection. The patient did not get any better from these treatments, so he decided an operation was indicated, as there was found a painful fluctuating mass to the inner side of knee.

The argument advanced for fixation, that it plays a more important role than injections, and that the latter without the former is useless, is not borne out by the result obtained in the first case, because the mere fact that the result in the first patient was so encouraging without immobilization is sufficient proof that these cases can do equally well with injections of iodoform emulsion alone.

As to the third case, I was in a position to observe the condition of the knee at the time of the operation. I also attended to the after-treatment. I will say without hesitation that conservatism in this case should have been discarded long before. The reason the little girl had to discard the use of a splint is not because the splint was doing any good. The slow method of splint treatment produced a progressive destruction of the joint and surroundings, causing a great deal of pain, so that the discontinuance of the splint became an absolute necessity.

Dr. John L. Porter: We are indebted to Dr. Frank for presenting this interesting group of cases. There are two or three things that come to my mind that I wish to speak of, and one is in relation to the injection of iodoform emulsion. There are undoubtedly some cases that improve under iodoform injections, but my experience is that there are very few of them that get well under that treatment alone. I

have tried it in a good many cases. We all of us know that a good many of these tubercular joints improve rapidly and many of them get well under immobilization alone, and without the use of iodoform injections. In these cases I fail to see any argument or any reason why we should not immobilize them too, and give them the benefit of both treatments.

The first case Dr. Frank shows has obtained an unusually good result from iodoform injections alone, but I do not believe an orthopedic surgeon, would have shown that case as good results with the amount of deformity the girl has even if treated by immobilization alone. The girl had an abduction deformity of the tibia of a good many degrees, and although she walks fairly well, the limb is not as useful as if it were straight.

The experience of Dr. Sherman, of San Francisco, who injected a series of tubercular joints several years ago, selecting the cases for injection and the cases for immobilization, alternately, was to the effect that he had seen no benefit from injections of iodoform. On the other hand, the cases that were treated by immobilization alone did better without any choice as to cases, than the cases that were injected. Personally, I have injected a good many cases with iodoform emulsion that seemed to improve more rapidly than they did under immobilization alone, and I do not think there is any reason why we should not try iodoform injections in certain selected cases. I would only inject cases in which I felt sure that the infection was limited to the joint. It does no good to inject iodoform emulsion into a joint where the infection has spread into the bone and surrounding tissues, as there are many foci that cannot be reached by such injections. The most favorable joints for injection of iodoform emulsion are these cases of synorial tuberculosis of the knee joint, and without doubt many of the cases that are injected and immobilized at the same time do remarkably well.

Dr. Frank (closing the discussion): Dr. Ridlon misunderstands me if he thinks that I brought the child here for the purpose of criticising his former treatment.

I brought these cases here especially for the purpose of eliciting a discussion, and to show the different methods of treatment for each case. Personally, I have not any hobby, as I mentioned in connection with my remarks about the first case. Every tubercular knee joint should be treated individually, and we should not resort to any routine method. When I apply a splint on a patient and find that it does not do any good, I do not persist in its use. I try something else.

When I began to treat Case 1, I did not think a favorable result would be obtained. In fact amputation of the limb was advised. The parents, however, would not listen to this, and said they would rather see her dead than to have her leg amputated. Under these circumstances, I informed them that I would do what I could for her; the treatment was extended for a period of two years, and I am very glad she

did not get tired of it, as the result has been a very favorable one.

As to immobilization, if I have to deal with a knee joint that is flail, I immobilize it. When I first saw this young lady, the joint was rigid, and I thought it would be better to try and get a result without breaking up adhesions, because if I gave an anesthetic and broke up the adhesions, it might mean amputation at once, or a general miliary tuberculosis might have resulted. At least, that is how I felt about it. I believe that immobilization is called for in many cases, but in this particular case it was not. Therefore, we agree on that subject.

As to the use of iodoform injections, in a certain number of cases it has its place, and should be tried before resection of the joint, just the same as I tried it in Case 2. Injections were used and after finding there was no improvement, I proceeded to surgical means, and I am glad I did so, because I obtained an immediate result from the erasement. In the child, Case 3, where the tubercular process had advanced to suppuration, I did not resort to iodoform injections, but did a complete resection. Therefore, we cannot lay down any routine plan of treatment for tubercular knee joints.

About the young lady's limb not being straight, if it had been a flail joint, I would reproach myself for not having secured a straighter limb, but as it was ankylosed, I deemed it advisable not to break up the adhesions as it might have resulted disastrously.

Tuberculosis of the Knee Joint.

Dr. L. L. McArthur: I wish to present a case in this symposium, because it seems to present certain practical questions that one ought to be prepared to answer as they come to him.

The case is that of an Italian laborer, 24 years of age, single, well-nourished, who was admitted to St. Luke's Hospital on the 13th of February of this year, complaining of swelling of the left knee, with stiffness of that joint, slight pain in the joint and tenderness. The history, briefly, was that he fell, striking on the knee twenty-six months prior to his admission. Since then the knee joint has been at times tender and swollen, but the patient has been able to work. The swelling has gradually increased. No other joints were ever affected. His previous history is, "he had never been sick," and he did not look as if he had been at the time of his admission to the hospital. He denied any venereal history, and all stigmata of the same were absent.

Examination of the patient was negative, except for the inguinal glands, which were enlarged. The left knee was swollen or distended with fluid, the swelling was somewhat spindle-shaped, extending from about three inches above the patella to an inch below the knee joint, with some tenderness on the inner side of the joint. The swelling had a boggy feel, was irregular; there were movable small masses. Soft fringes of synovial membrane or rice bodies could be felt with the knee partly

flexed, and the tissues pressed over the outer margins of the articular condyles edges. There was no marked atrophy of the muscles below the knee joint. Two days after his admission to the hospital, six drams of viscid fluid was withdrawn and sent to the laboratory. The laboratory report regarding this fluid was negative. There were no gonococci, no tubercle bacilli seen. The patient was admitted to the hospital under the service of a colleague, and was later transferred to me. At the end of that month, February, he was put to bed, given iodide of potassium and inunctions over the knee, and partial immobilization of the joint. After some days there was a slight decrease in tension and in the swelling. The first of March he came into my service, when a careful examination of the joint was made. I found the joint unassociated with increased heat, unassociated with redness, unassociated with marked tenderness on palpation, but some pain elicited on attempting to make motion. There was considerable fluid in the joint, which produced distinct fluctuating tumors on each side of the quadriceps tendon.

Inasmuch as we had a laborer to deal with, only 24 years of age, and otherwise physically well, but financially poor, it became necessary to decide whether surgical intervention or long-continued fixation treatment should be instituted after a definite diagnosis had been made.

As to the question of diagnosis, the joint presenting the conditions such as have been described, I will say we had to reason from the probabilities in the case, by exclusion, not jumping at the diagnosis. We could reasonably exclude rheumatism, malarial infection, syphilis, and the ordinary traumatic affections of the joint from the nervous side, and had necessarily to fall back on the probability of a tubercular joint. This diagnosis seemed more probable because of the definite rice-like bodies that could be made to slip over the margins of the articular ends of the femur, outside and inside of the patella, when the knee was flexed at right angles. But to be as sure as possible, and act in accordance with the light we had, the fluid was withdrawn, cultures carefully made, as well as careful inoculations made in guinea pigs with smears, and yet all the pathological findings were negative. Examinations of the fluid was made by competent men, also an examination of a small lymphatic gland that developed in the inguinal region of the guinea pig that was injected was made by Professor Zeit, and found absolutely negative. The guinea pig was still alive nine weeks after the injection, and yet with all the laboratory knowledge that we possessed exhausted, I was still convinced we had to deal with a tubercular joint in a man, 24 years of age, a laboring man, who had only enough money saved up to pay for his hospital expenses for eight or nine weeks. This question was presented to him: You have either to have this joint excised, as it is tubercular, or you have to count on a treatment of two years' duration, at the end of which time you may then have to undergo the

same operation. Have you enough money to lay off for that length of time, or are you willing to take that time to get well? He said he could only pay the hospital for eight or nine weeks, and that he wanted to get well as soon as he could. Under the circumstances he thought he would rather have the joint excised. We told him that he would probably get well after the operation, with a stiff joint, with which he would be able to get around.

I have under the microscope some sections which I think will prove of interest to those of you who have not examined such sections of these little rice bodies, and of the papillomatous-like projections from the inner surface of the synovial membrane, in each one of which can be seen three or four or five giant cells with the characteristic arrangement of the nuclei around the margin, probably containing tubercle bacilli when stained for them, so that we have a microscopical demonstration as the result of operation that it was tuberculosis, in a man who was without any previous history of disease, who was well-nourished, and who received a slight trauma. He now presents himself to you with a stiff limb, but the limb is in a good position for use, and primary union has taken place. The limb is not absolutely straight, as it was considered desirable to have a small amount of flexion, but a firm union. It is now fifty-seven days since the operation was performed.

In these cases we have several practical points to consider. First, is the patient able to go through that long course of treatment which is necessary if we are going to treat him by fixation? Second, is the patient at the end of that time to be promised that he will not have to undergo operation? Is he not better off by a prompt resection, prompt fixation, and in a condition ready to go to work again? The argument might be used in this particular case that iodoform injections might have been made, and successive injections made, at the end of which time he might have had a limb of normal length and of normal flexion, but one must consider not only the practical condition of the patient, but the economic side of the equation.

Discussion.

Dr. Arthur B. Hosmer: I would like to ask Dr. McArthur with reference to the best position to maintain these excisions. Why he thinks a slight degree of flexion is preferable?

Dr. McArthur: In regard to the question of a slight degree of flexion, it approaches more the normal condition. Normally, the limb adapts itself slightly to those positions which the patient desires to assume but which he cannot do with a straight limb. For instance, sitting on a chair, slight flexion enables him to keep it out of the way better than if it were absolutely straight, and slight flexion diminishes but slightly the actual length of the limb.

Dr. Harris: I would like to ask whether Dr. McArthur found a bony focus in this case?

Dr. McArthur: As to the question asked by Dr. Harris, as to whether I found a bony focus or not in this case, I am glad he asked that question, because I desire to emphasize, but

forgot it, that all tuberculososes of joints begin either in the bone or in the synovial membrane. They never begin in the ligaments, in the cartilages, or any of the other structures of the joint than the bone or synovial membrane. Those that begin in the bone have an absolutely quiescent state until they suddenly break into the joint. Those that begin in the knee joint commence definitely with joint symptoms, and when they begin in the synovial membrane they are associated usually with effusion, and are the ones which produce these peculiar rice-like bodies, which under the microscope show themselves readily with a little motion of flexion or extension to be thrown off from the synovial membrane, yet containing the typical giant cells which characterize the rice-like bodies, and show the source from which they originate.

Extra Capsular Lipoma of the Pretibial Triangle of the Knee.

Dr. Edwin W. Ryerson read a paper with this title, and spoke of the existence of a triangular space between the patellar ligament, top of tibia, and capsule of knee joint. This space is normally filled with loose fat, which by trauma or inflammation may hypertrophy and limit the motions of the joint. The differential diagnosis is made by the absence of fever, and suppuration, long duration, painlessness in the early stages, extent and character of the swelling. For its removal operation is necessary. He discussed the after-treatment.

Dr. John L. Porter read a paper on "Syphilis of the Knee Joint."

Dr. George W. Hall: I do not know whether Dr. Porter places any diagnostic value on the statement he made in regard to syphilis especially attacking the knee joint or not. There is probably no infection which does not more frequently attack the knee joint than any other one joint, with the exception of these involvements from gout and arthritis deformans, which comes on at certain stages in women, and in similar cases in children sometimes, but I do not believe the statement as to the knee joint being preferably attacked by syphilis is of any importance whatsoever in differential diagnosis. It is the joint of predilection in cases of gonorrhea.

So far as the statement concerning Charcot's joint is concerned, I do not believe that the syphilitic toxin circulating in the system has anything directly to do with the development of Charcot's joint, because we may observe practically the same conditions in syringomyelia with no previous specific infection.

Dr. John Ridlon: So far as the question of tabetic joints being syphilitic is concerned, I am very positive in the opinion that they are not. I am ready to admit, however, that locomotor ataxia is frequently due to syphilis. I do not believe that these joints are primarily destroyed by a localized syphilitic condition. I think that was clearly shown by John K. Mitchell, father of Weir Mitchell, in a paper written during the civil war, based on the examination and report of cases of destructive joint disease resembling closely tabetic joints,

due to injuries of the spinal cord, mainly gunshot injuries, and I am very positive in the conviction that the destructive process is destructive because of the lesion in the cord, and not because of syphilitic infection of the joint itself.

So far as the question of the knee joint being more frequently involved by diseases than other joints, the orthopedic surgeon does not believe that. Orthopedic surgeons place the knee joint as third; the spine first, as more frequently diseased; the hip joint second; the knee joint third. Of course, orthopedic surgeons see more of tubercular disease than any other class of joint diseases, and that order of frequency is based more on tubercular disease than any other class of joint disease.

Dr. Porter (closing the discussion): I would like to say that my reference to the frequency of syphilis of the knee joint simply meant that in looking up the records of all cases of syphilitic joints I could find of undoubted diagnoses the joint most frequently involved beyond all others was the knee. Other writers have noticed the same thing, that syphilis affects the knee more frequently than any other joint. The elbow joint comes next.

My remark in regard to Charcot's joint was simply this, that I had seen in the literature within the last month a suggestion by some writer that the condition of the joint may be due to syphilitic infection rather than to the effect of the disease upon the cord. But that was merely a suggestion, and I only offered it as such here.

With regard to Dr. Hosmer's remark about pain, I would like to say that I have had under observation at the Cook County Hospital three cases of infection of the knee joint in patients who are pronouncedly syphilitic, and have no signs of tabes. In every one of these joints the characteristic from start to finish has been painlessness. If you examine these joints and compare them with tubercular joints in people of the same age and condition, you will be reminded that the tubercular joint would be painful, that the muscular spasm would be marked, and the limitation of motion would be very great. Whereas in these three cases which I am observing now,—and I have not reported them tonight, because the treatment has not been carried out long enough, there has been little or no pain from start to finish. Although some of them have extended over a period of eight months, or a year, and one four years, there is still considerable motion in the joint, with no muscular spasm.

CHICAGO SURGICAL AND CHICAGO MEDICAL SOCIETIES.

Joint meeting, June 7, 1905.

The President of the Chicago Surgical Society, Dr. L. L. McArthur, in the Chair.

Biological Aspect of Carcinoma.

Professor G. N. Calkins, of Columbia University, New York City, and Biologist of the State Cancer Laboratory of Buffalo, by invitation, spoke on the biological aspect of car-

cinoma. He said that in these days in scientific matters, it was not remarkable that pathologist, chemists and biologists should join physicians and surgeons in a combined attack upon the carcinoma problem. All joined in the common task of ascertaining, if possible, the cause of this disease, a search which as yet is unsuccessful.

After discussing at length the nature of the various stimuli which cause abnormal proliferation in differentiated cells, he mentioned studies of his own that were undertaken relative to the nature of division energy of the cell, to find out what it was that would control it, what would increase or decrease its activity, what stimuli were necessary, and what conditions of metabolism and morbidity had their effects upon it.

He mentioned the theories in vogue which have to do with the explanation of the stimulus of division energy of the carcinoma cells. Were we to believe with Cohnheim, for instance, that carcinoma was due to the fact that certain embryonic cells in the early period of growth of the organism became side-tracked, put away in a recess of the organism, so to speak, where they may remain ten, twenty, thirty, fifty or sixty years before this division energy is stimulated? When the division energy is finally stimulated, the question arises again, what is the nature of the stimulus? The Cohnheim hypothesis demands an explanation of the renewed division energy no less than any other theory that has been brought out.

Of the various theories advanced, he considered only two. The first, Marchand's which was analogous to the stimulus of the gall-producing insect poison on plant cells; and, second, the parasite hypothesis.

He thought he could best make this clear by a brief statement of the work on mice which they are doing in the study of cancer at the State Cancer Laboratory in Buffalo. They have in Buffalo some two hundred mice with carcinoma. The original tumor mice, which Dr. Gaylord brought with him from Professor Jensen's laboratory in Copenhagen in February, 1904, died on the way from New York to Buffalo. The tumors were removed and put on ice. In three days, when mice had been obtained, the tumors were transplanted into normal mice. About forty per cent. practically of the transplantations took, and a large number of mice developed carcinoma. These make their appearance in from three to five or six weeks after inoculation, the tumor mice ultimately developing symptoms of cachexia, followed by death. The tumors that developed varied in size from one-third the weight of the mouse plus the tumor to one-fifth. These tumors were transplanted from mouse to mouse nine successive times in the Buffalo Laboratory. Professor Jensen had similarly transplanted the tumors from mouse to mouse for a period of two and a half years before Gaylord brought them from his laboratory to Buffalo, so that altogether there have been, in all probability, about thirty to thirty-five generations or trans-

plantations of this tumor. These tumors are merely metastases from the original growth. The cells of the old tumor in each successive new environment were stimulated to grow and develop into a new tumor. According to the Marchand hypothesis, the primary stimulus which the first mouse received was a poison which originated from deranged metabolism, from malnutrition, or from some other product of morbidity in the organization of the mouse.

Are we to assume that there is formed in every mouse morbid products which carry on the stimulus to the dividing energy of the cells? In other words, can the organism produce a toxin which acts as a continued cumulative disease factor?

On the other hand, according to the parasite hypothesis, we might assume that the primary tumor of the original mouse was caused by poison from some parasite. To explain the stimulation of the division energy, some poison of one origin or another seems absolutely necessary. According to the parasite hypothesis, the toxin is produced by some parasite. Some advocates may argue that it is an initial parasite invasion; others a continued parasite infection which carries on the primary stimulus through generations of tumors, and causing the production of a large mass of cells which represents ten or twenty times the actual weight or size of the mouse. If the latter view is correct, we must say that every epithelial cell has within itself parasites which keep on producing a stimulus to the division energy. There is absolutely no morphological element in cancer cells which can be interpreted as parasites, and no morphological evidence of such parasitism.

The advocates of the parasite hypothesis are forced to the conclusion that the parasite must be ultra-microscopic. The speaker did not wish to advocate that view. He said, however, that it was gaining ground throughout the scientific world. Schaudinn, the most eminent parasitologist, believes in the possibility of ultra-microscopic organisms. The Pasteur Institute has practically accepted this explanation for certain diseases.

In November of last year the mouse tumor began to deteriorate; and the mice showed signs of natural immunity and ability to throw off disease. A great many mice spontaneously recovered. They have had altogether over 150 cases of spontaneous recovery from true carcinoma in mice. They thought the tumor material was growing physiologically old, and that it would die out and their means of experimentation would be lost. A tumor, however, was transplanted to a new strain of mice, and the virulence of the cells was restored, so that the mice died in from three to five weeks after inoculation.

Dr. Clowes, chemist of the Laboratory, conceived the idea that the blood from such a spontaneously cured mouse might carry immunity. He inoculated some mice having tumors of small size with the immune blood from a mouse that had spontaneously recovered. This was done in a number of cases, and six

tumors disappeared by this immune serum. Experiments have shown that immunity thus acquired has been efficient up to the present time, and has carried with it protection to the mice against re-infection.

The experiments have been tried subsequently in a slightly different form. In one such experiment, for example, 45 mice from the same source were taken; 23 of them were treated with cancer mush plus the immune serum from the mice which had spontaneously recovered; and 22 of them were treated with cancer mush plus the normal blood of normal mice. The only difference between them apparently was the immune factor from cases in which the mice had spontaneously recovered. In the 23 mice treated with this immune serum, 3 developed tumors. In the 22 mice that were treated with normal blood plus the serum, 10 tumors developed, or about the proportion of tumors successfully produced by the inoculation method.

This, in brief, he stated, was the position, from a biological point of view, of the cancer problem today. It is not known what causes the stimulus. It is not known that there is a parasite in cancer. It is not known that a specific poison produced in any way is the cause of carcinoma; nor is there sufficient evidence on biological and cytological grounds, to justify the hypothesis of Farmer, Moore, Walker and Bashford. Progress, however, is being made.

Dr. E. Wyllys Andrews read a paper in which he discussed the past and future surgery of carcinoma.

The X-Ray in the Treatment of Carcinoma.

Dr. William Allen Pusey said, in considering the use of X-Rays in carcinoma, it would seem to be conducive to clearness, first, to determine the demonstrable facts concerning the influence of X-Rays on carcinoma tissue; and, second, in the light of these to consider clinical findings. In this way he discussed the subject. He emphasized the point that carcinoma tissue upon the surface could with practically unvarying regularity be destroyed with X-Rays and be replaced by healthy scar tissue. But when we come to carcinomas more deeply situated, we were not in possession of many authentic facts; he had two cases from which, however, he could furnish definite post-mortem data. These two cases were primary carcinomas of the breast. One of these, an old woman, referred to him by Dr. E. Wyllys Andrews, had a large primary carcinoma of the breast without involvement of the skin, with enlarged axillary glands, and with spinal metastasis when the treatment was begun. The patient had vigorous X-Ray exposures lasting about a month, with the production of a dermatitis which subsided completely before her death, about three months after the treatment began. At the post-mortem examination it was found that the breast was a mass of connective tissue, without any carcinoma tissue remaining. The same was true of the axillary contents; they were converted into a mass of connective tissue without the

remains of carcinoma. In the second case, an old woman referred to him by Dr. J. B. Murphy, there was a large primary carcinoma of the breast without involvement of the skin, and with enlargement of the axillary glands. She had vigorous treatment for six weeks, with the production of only a mild reaction. About three weeks after he saw her she developed an acute gastritis, from which she died. On post-mortem, it was found by Dr. W. A. Evans that the tumor of the breast had been converted into a small fibrous mass about the diameter of a two-thirds the length of an index finger. The carcinoma had been destroyed and there remained in its place a small mass of scar tissue. In this case the axillary glands had not been affected.

He believed that any epithelioma which had not metastases, and which had not deeply involved the subcutaneous tissue, might be symptomatically cured by X-Rays. By symptomatically cured he meant to say converted into healthy scar tissue, as healthy scar tissue could be gotten after the excision of epithelioma. The superficial extent of the carcinomas was a factor of some consideration in the prognosis, but the most extensive epitheliomas that he had seen he had symptomatically cured with X-Rays. He had seen lesions, involving areas of from thirty to forty or fifty square inches, converted into healthy scar tissue. As to the permanence of the results in epithelioma, some of his cases had gone now more than three years without recurrence, and he believed that whenever one was able to get a satisfactory scar, he might count upon a permanent result.

In advocating the use of X-Rays in the treatment of epitheliomas, and in the treatment of inoperable carcinomas, consideration should be given to the question, first, is the danger of metastases in epitheliomas increased by the use of X-Rays? Second, is there danger of stimulating and rendering more rapid the growth in inoperable carcinoma by the use of X-Rays? He believed that both questions could be positively answered in the negative. The histological findings, in the first place, were not such as to lend plausibility to the first of these questions. In carcinoma tissue exposed to X-Rays, there was not first a stimulation of the growth, but a degeneration and a disintegration of the youngest peripheral cells. The vitality of the cells was lowered, their nuclei were converted into fragments, the protoplasm degenerated and stained poorly; the whole process was one of disintegration rather than of even temporary stimulation of the carcinoma cells. If there was an organism of carcinoma in these cells, it might be liberated in this process, but certainly any organism which might be so liberated would have already had the opportunity of invading other tissue, and the whole course of carcinoma showed that the danger of metastases arose, not from the presence in the circulation of organisms which might lodge, but from the floating away and lodgment at other points of living carcinoma cells, and after X-Rays liberated carcinoma

cells they were in no condition to proliferate. His experience had given no plausibility to either of these suppositions of danger.

As to X-Rays stimulating the growth of carcinomas which they could not cure, he had seen no case which would lend weight to this hypothesis. On the contrary, he had had many cases in which the amelioration of the condition during X-Ray exposures was explained away by calling attention to how frequently these cases did better than was to be expected.

Dr. Arthur Dean Bevan said the first thing that impressed him in the clinical study of carcinoma was that it is primarily a local disease. There certainly was a time in the history of every carcinoma when it was local, limited to one point, sometimes to a few points—concentric foci. One saw clinically occasionally epithelioma, for instance, which, when examined carefully, showed three or four points of invasion very close together. Clinically we saw carcinoma involving occasionally both breasts. These exceptions did not, however, disprove the statement that carcinoma was primarily a local disease.

A second point that impressed him clinically was, that whether carcinoma was a parasitic disease or not, its history was that of a parasitic disease. Whether the researches of the future showed that it was a peculiar chemical stimulus that acted upon the cells and produced these changes, or whether it was a parasite, whether it was purely chemical and independent of any low form of life, or the result of some low form of life, made no difference, the clinical history of carcinoma would remain that of a parasitic disease.

In regard to the present results of surgical treatment of carcinoma; these varied in different regions of the body and the reports from different clinics varied widely. For instance, some surgeons who had made several hundred operations for epithelioma of the cervix state that possibly less than five per cent. of these cases were permanently cured. Some men even have gone so far as to state that less than one per cent. of such cases are permanently cured by surgery. On the other hand, cancer of the body of the uterus furnished a far greater proportion of permanent cures. Carcinoma of the larynx furnished a comparatively large proportion of permanent cures; while carcinoma of the breast occupied a rather mid-position between extremely fatal carcinoma of the cervix and more favorable carcinoma of the larynx. An analysis of the different statistics of carcinoma of the breast would seem to show that surgical treatment furnished somewhere between twenty and possibly thirty per cent. of permanent cures. In this connection, he said that in the last few years there had been a great effort made to improve the statistics, so far as permanent cure was concerned, from surgical operations in treating carcinoma, and in doing this there had been a certain amount of juggling. In one well-known surgical clinic (Johns Hopkins Hospital Clinic), the reports of the surgical removal of carcinoma of the

breast had been extremely favorable. An analysis of the facts, however, revealed this explanation, which in part at least accounted for their very favorable results, i. e., they had there divided their cases of carcinoma of the breast into two groups, and at the time of operation, or rather after the operation was completed, if in the judgment of the surgeon the case was one which gave good prospects of a permanent cure, if it was reported. If the case did not, in the opinion of the surgeon, give a good prospect of permanent cure, it was pigeon-holed in a second group which was not considered in the final statistics. In other words, only those cases which were, in the opinion of the surgeon, favorable to permanent cure after the operation was completed were reported.

Statistics which were based upon the total number of cases operated upon would seem to give, in cases of carcinoma of the breast, the possibility of permanent cure in from twenty to thirty per cent.

There was one other point that had impressed him very much, and that was the three year limit in connection with carcinoma. It had been taught for some time that if a patient lived beyond three years without recurrence, there was little danger of such recurrence. A careful analysis of statistics would show that this was not so. Cases of carcinoma recurred three and a half, four, six and even ten years after operation. There was a gradual diminution in the per centage of recurrences as the time period increased from the date of the operation. He agreed with Dr. Pusey as to the value of the X-Ray in epithelioma. He thought it should not be used in cases of thick epithelioma, whether the lymphatics were involved or not. Superficial epithelioma was the form in which the X-Ray was particularly of value. In thick epitheliomas, say of the thickness of the thumb, on the lower lip, it should not be employed.

There were two great dangers from the use of the X-Ray. One was that it would produce serious burns in the hands of men who were not experienced in its use; the other was that it would do positive damage when it was used in a case where a surgical operation, if employed sufficiently early, would hold out a good hope of permanent cure, but where delay produced by the use of the X-Ray wasted valuable opportunity and lessened the chances of permanent cure.

TRANSACTIONS OF THE CHICAGO SURGICAL SOCIETY.

Stated meeting April 3, 1905.

The President, Dr. L. L. McArthur, in the Chair.

Carcinoma of the Liver.

Dr. L. L. McArthur presented a patient for the fourth time, not because he was still alive (death having been predicted to take place in a short time), but because in the past year symptoms of ulcer of the stomach again recurred, and patient was again referred to him. He made an

operation, partly exploratory, thinking possibly the diagnosis had been faulty. He had in view the making of a gastroenterostomy. On making, as he supposed, an ante-mortem examination, the man having greatly emaciated, he found that there was no recurrence of the disease at the seat of the old scar; that there were no new growths to be detected in the liver or in the stomach walls, so that he made a gastroenterostomy by the anterior method, but perforating the gastro-colic omentum and carrying the knuckle of bowel posteriorly to the stomach, but in front of the colon. The man had again been relieved of the symptoms of ulcer, and had gained 30 pounds in weight. The patient was an orderly at the hospital, and was again on duty attending to his work.

Lymphatic and Hepatic Infections Secondary to Appendicitis.

Dr. John C. Munro, of Boston, Massachusetts, read a paper, by invitation, on this subject. After treating the subject in an exhaustive manner, the author concluded by making the following suggestions: (1) Lymphatic and hepatic infections are more common than we realize. (2) The two infections are frequently associated, and one type may be the source of origin of the other. (3) In certain cases of hepatic abscess, the source of infection, whether through the portal canals or through the lymphatics, cannot be determined either clinically or at operation. (4) The type of infection does not depend upon the gravity of the originating appendicitis. (5) Subphrenic infections must not be isolated in a class by themselves, as they depend on both lymphatic and hepatic infections, and vice versa. (6) Hepatic infections are not uniformly distributed, even when originating in the portal tract, the left lobe being solely affected at times. (7) The prognosis of lymphatic, including the subphrenic infections, is better than that of hepatic, but when the latter are secondary to lymphatic or direct mechanical invasion, the output is more favorable than in the true portal invasions. (8) The most important clue in making a diagnosis is the recognition of the causative appendicitis, and the elimination of this possible cause is necessary in dealing with obscure hepatic invasions in the presence of plasmodia, the Widal reaction, etc. (9) Early recognition and removal of the inflamed appendix may abort a secondary infection of the type considered here, but the corollary does not necessarily follow. (10) The characteristic signs and symptoms are well established in typical cases, and should form a basis for diagnosis in atypical cases.

Dr. E. Wyllys Andrews stated that about a year ago Dr. LeCount read a paper on the subject of rupture of the mesenteric glands simulating typhoid perforation. This belonged to the category of atypical cases, the source of the infection being a typhoid ulcer, producing lymphadenitis and suppuration in the gland, with rupture of the abscess into the peritoneal cavity, which simulated closely perforative typhoid, causing subdiaphragmatic abscess, violent infection, and collapse. Since reading this paper, two cases had occurred, one in the speaker's own practice, and one in the practice of a colleague. The abdomen was opened under the suspicion

that he had a perforating typhoid, and the true condition was that of a retro-peritoneal abscess bursting through into the peritoneal cavity. He thought it was impossible to make a differential diagnosis between this condition and typhoid perforation before operating. Two cases of pneumococcus peritonitis also occurred, one in the County Hospital and one at Michael Reese Hospital. Both were marked by an absence of distention, ileus, or the ordinary signs of diffuse peritonitis. Both ended fatally.

Dr. L. L. McArthur reported two or three cases he had had. First, as a type of hepatic infections probably portal in their origin was a case referred to him by Dr. Collins, seen by Dr. Collins at first at about ten o'clock at night, diagnosed as an acute gangrenous appendicitis, and operated by him and the speaker at about five in the morning, a gangrenous appendix being found and removed, as yet unruptured, but in a condition so that migration of the organisms was possible through the dead and gangrenous wall of the appendix. However, it would seem safe to close the abdomen with a small drain, in case there had been a passage of micro-organisms through the intact but dead wall of the appendix. There was a normal, satisfactory convalescence, the patient being up on the tenth day, when symptoms of a low grade of fever, without any local symptoms, developed. Two of the best internal medical men were inclined to regard it as an atypical typhoid, because a Widal was reported from the Health Department, and a partial Widal at the hospital examination. The temperature rose higher and higher for three or four days, until it reached 106°, with violent rigors. In a state of desperation, in the absence of any local guide, the speaker inserted a Dieulafoy aspirating needle of good size into the right lobe of the liver, and fortunately struck a cavity containing stinking pus. The trocar was left in situ, and the patient taken to the operating table. After aspirating a sufficient quantity of pus to reduce the abscess pressure, the liver was exposed along the tract at which the needle had entered, between the tenth and eleventh ribs on the right side—finally exposing the abscess, which was opened and drained, the patient making a good, prompt recovery. The temperature dropped and all symptoms became normal in a brief time, with this exception, there was a persistence for six months afterwards of a biliary fistula, evidently a large bile tract having been cut off by the large abscess. As long as the tube was left in situ, the patient was well, up and around, and gained in weight. Once or twice the removal of this tube was attempted, but each time a rise of temperature required its insertion. The patient drifted away from the hospital. He returned after three months, with a suspected retention in the old abscess. Operation was made, but no abscess was to be found. The abdomen was opened, the gall-bladder region and subhepatic region explored, the liver explored by multiple puncture, but no abscess found. Death ensued nine months after the appendectomy, which, by the way, made no further trouble, and at the post-mortem examination it was found that a small abscess not much larger than an almond

had formed apparently in the lymphatic gland behind the common duct and internal to the usual position of these lymphatic glands at the hilus of the liver.

The author reported a case illustrating a striking type of infection of the portal circulation; also a case of sudden fatal hemorrhage as a result of phlebitis incident to the resting of the appendix on such a vein.

Dr. Munro, in closing the discussion, said he had operated altogether on 37 cases out of 39, but this did not include several cases he had seen in other men's work. In one of his cases the lymphatic and portal infection was overwhelming, so that it was impossible to tell which was the more rapid. He believed that in the long run portal infections took place more rapidly than lymphatic, but not necessarily.

A New Method of Incising and Suturing the Liver to Re-establish Its Continuity and for the Control of Hemorrhage.

Dr. Jacob Frank detailed eighteen experiments on dogs. Two consisted simply of incising the liver through its entire thickness, without any suturing or other attempt to control hemorrhage. Both dogs recovered. In the remaining sixteen experiments he pursued the following plan: When a portion of liver was to be removed in a transverse direction, a wedge-shaped piece was removed transversely to the viscus, leaving the organ with two flaps forming a trough. The flaps were then quickly coaptated, and with a long, non-cutting needle, threaded with a medium heavy catgut, a continuous suture was taken, the sutures alternating, one carried through the liver tissue near the bottom of the trough, and one superficially, until there was complete closure. It required very slight tension to approximate the flaps. The main object was to bring the flaps together, obliterating all dead space. When a portion of liver was to be removed in a longitudinal direction to the viscus, a wedge-shaped piece of the entire thickness of the liver was cut out longitudinally, thus removing the desired part. The broad, raw surfaces left by the removal of the wedge-shaped portion were converted into troughs, which was accomplished by the excision of wedge-shaped pieces. The troughs thus formed had two flaps. When the operation was completed, the raw surfaces of the original V left were transformed into smooth, continuous liver tissue, assuming the form of liver borders, and the V space left persisting as a notch. This method of incising the liver facilitated easy suturing, and did not require any tension on the suture to coaptate the flaps. Hemorrhage was successfully arrested, and the continuity of liver surface re-established. No drainage was used in any of the experiments.

Dr. John C. Munro was glad that the essayist had obtained such good results from that method of incising and suturing the liver for the control of hemorrhage. It was new to him, for the ordinary V-shaped incision had proven sufficient in a number of instances. He had sutured the liver a number of times, using coarse catgut. In bringing the edges of the wound together it was best to have an assistant make pressure on

the liver itself with his hands, bringing the flaps together before placing the sutures. They could then be tied without the liability of their cutting through.

Dr. William E. Schroeder said that a year and a half ago he removed a third of the right lobe of the liver for primary abscess, using a long needle with mattress sutures for suturing the liver tissue, with which he was able to control hemorrhage. The patient recovered.

Dr. L. L. McArthur cited two cases in which he sutured the liver, one requiring the removal of a wedge-shaped piece of the under-surface of the liver. In this case tamponing was quite sufficient to control the hemorrhage. In the other case the tumor was situated under the ensiform cartilage; the patient was transferred to the surgical service of the hospital, as a probable aneurysm of the aorta. Bruit and pulsation were present, and vomiting distressed the patient. A laparotomy was made. A diagnosis was made of possible tumor of the liver pressing on the stomach, and producing vomiting. This was found to be true, and search for the primary source of the trouble in the stomach or gall-bladder failing to reveal primary carcinoma there. There was probably a carcinoma of the left lobe of the liver as large as an orange, easily seen externally, and removed by means of a wedge-shaped incision. Tamponing was resorted to for controlling hemorrhage, which it did satisfactorily. The patient recovered so far as the removal of the tumor was concerned, but died later of carcinoma of the lesser curvature of the stomach, which was so small as to be overlooked.

Dr. Frank stated that his experience had been that with a wedge-shaped piece taken out of the liver it was almost impossible to bring the tissue together. It was certainly impossible to hold with suture the liver tissue long enough for it to unite, and this was one of the reasons that induced him to conduct the series of experiments mentioned.

Dr. John Ridlon, by invitation, showed an apparatus for supporting the hips and making traction on the limb during the application of a plaster of Paris spica.

Stated meeting, May 1, 1905.

The President, Dr. L. L. McArthur, in the Chair.

Generalized Systemic Blastomycosis.

Drs. D. N. Eisendrath and Oliver Ormsby reported a case of generalized systemic blastomycosis in a Polish laborer, aged 33. The patient was married, and had two healthy children. He had been ill since February, 1904. He was admitted to the Cook County Hospital in February, 1905, and assigned to the service of Dr. Eisendrath. Present trouble began in February, 1904. Patient stated that the first noticeable departure from his usual good health consisted in a feeling of discomfort, involving the chest on the right side and extending clear through from front to back. This lasted for some time, and was still present, being better and worse at intervals. In June, four months later, his first cutaneous lesion appeared, which was located below the left

ankle and extended down to the heel, and eventually became a little larger than a dollar. Shortly afterwards, the balance of the lesions appeared, but it was impossible to tell their exact mode of development. In addition to this area, the right leg had several large lesions, also the right and left forearm, and the face, chin and neck, especially on the right side. Most of these lesions were quite superficial, the larger part of each being an ulcer, crusted over in places, open in others. There was little induration, but considerable sanguino-purulent discharge. The edge of the ulcer was slightly elevated and presented a bluish-red halo, in which there were located a few miliary abscesses. In some places of the area a papillomatous condition was present. The lesion on the arm was a subcutaneous nodule, which later softened and was incised, and from the sinus left after this procedure and from both the lesions on the legs, the organism of blastomycosis was demonstrated in pus. There was also present a large swelling on the left forearm, which apparently involved the whole circumference. It began about two and one-half inches below the elbow joint, and extended down in the forearm about four inches. It involved both sides of the arm, and suggested the possibility of bone involvement. In a skiagraph of this lesion the bone appeared normal. This swelling was later incised, and the same characteristic discharge released. There was still (May 1st) marked involvement in this area. The lesions on the face protruded more extensively above the level of the skin, and were papillomatous, and some were even verrucous. There was much discharge and marked crusting. About November, 1904, great muscular weakness set in, and marked swelling of the feet and ankles occurred. This gradually increased until he was unable to work. On his admission to the hospital in February, 1905, he presented lesions on all the above-mentioned areas, and was very much emaciated, pale, anemic, exceedingly weak, and had some elevation of temperature. Marked edema was present in the ankles, feet, face, and arms. He coughed only occasionally. Although the patient constantly denied having a cough or expectoration of any moment, and although his attendants at the hospital had not noticed these symptoms, on April 26th, a large amount of blood-stained muco-purulent sputum was collected, in which the organism was plentifully found. On March 22d, pus was removed from a subcutaneous unruptured abscess, situated on the left forearm, and inoculated on various media, and later in animals. Pure culture of blastomycetes grew on all the cultures. On March 28th, six days after this inoculation, growth was plainly visible, and after this the cultures grew rapidly. These were pure cultures of blastomycetes. While only spherical and budding forms appeared in the fresh pus, segmented mycelium, with lateral conidia, grew on the media. This pus was stained for tubercle bacilli, with negative results. Blood cultures, thus far, have been negative, as has also examination of the urine relative to blastomycetes. Albumin and

casts were present in the urine. On March 23d, tuberculin was given, with negative results. No tubercle bacilli have as yet been demonstrated in sections or pus. During his two months' sojourn at the hospital the patient's temperature ranged from 98.6° to 102.8°. The latter half of the time the temperature has been considerably lower. As a rule, there is an exacerbation each evening. Under large doses of potassium iodide internally, with radiotherapy, antiseptic dressings and surgical interference locally, marked improvement has occurred. The cutaneous lesions have largely healed, and the patient has gained in weight, but he still has much infection internally, as evidenced by the numerous organisms demonstrated in the sputum only five days since, and also by other general symptoms. Animal inoculations are under way, but no report can be made as yet.

Diffuse Multiple Fibroma Molluscum.

Dr. Eisendrath exhibited a man, 65 years of age, who stated that he noticed the development of tumors about forty years ago. The tumors were composed of soft fibromatous tissue. Some of them were larger than others. Those on the breast were quite large. Some of the tumors felt much harder than others, and as though they contained cartilage.

Schede's Operation for Empyema.

Dr. D. A. K. Steele exhibited a young man, German-American, 28 years of age, upon whom he found it necessary to do this operation. The case was detailed at great length. The cause of the empyema was a tubercular pleurisy primarily, a mixed infection, with the ordinary after-history. He said that the Schede operation was reserved for only a limited number of cases. In young people and young persons the majority of the cases got well, with multiple aspirations; another large number of cases were cured by a less radical operation than this, known as the Estlander operation, by which a portion of the ribs only, usually upon the anterior part of the chest, was removed. But there were a certain number of cases in which the chest wall would not collapse, and in which it was impossible to obliterate the empyema cavity, unless one removed the ribs and soft parts and curetted, freshening the parts, so that the opposing pleural surfaces might be covered with a fresh integumentary and muscular flap after the removal of the ribs. This would enable the obliteration of the cavity except on the left side, where there remained the condition now observed. He saw a case six years ago that was operated by Dr. Roswell Park, which presented very much the same appearance as the speaker's case presented, several years after operation, in which the empyema cavity had become completely obliterated, but there was a window-like appearance of the chest, the serous surface having assumed a parchment-like dry appearance, and the man carrying one-quarter pound of cotton batting to protect the pericardium from external injury. He thought the same thing would occur in his case, although he hoped it would become obliterated. It did not appear now as

though it would be. He hoped the concave or cup-shaped cavity would stop secreting after a while. It might remain permanently open, but without discharging, provided the man lived long enough. In the upper portion of the right lung there were already new foci of tubercular infection. Patient's sputum contained a large number of tubercle bacilli. He exhibited the ribs that were resected from the left side.

Dr. Arthur Dean Bevan agreed with Dr. Steele as to the difficulty of obliterating the cavity at the upper portion of the pleural space. In the last two cases operated on by the Schede method—yes, the last three cases, as he had one case still under observation, but not as yet far enough advanced to make a permanent report on—he had adopted a scheme which had been of a great deal of value, namely, after making a Schede operation, very early encouraging the patient to develop the lung on the opposite side, or the remnant of the lung on the affected side, by very persistent efforts at respiration, either with a water-bottle* or with a rubber-bag, and in two cases the results had been very admirable. In the case of a boy, 6 years of age, in whom there was quite a considerable cavity at the upper angle, he started him shortly after the Schede operation at blowing up a rubber bag every day, even before there was any effort at much repair, and there was developed opposite the second and first ribs enough lung tissue to obliterate entirely the cavity. He emphasized the point that in empyema the difficult portion of the cavity to obliterate was the upper part, and that very early, if one did a Schede operation, before wound repair was at all complete, efforts should be made to expand the upper portion of the lung, or to fill in that portion by an expansion of the lung of the opposite side.

Left Inguinal Congenital Hernia, with Two Testes on the Left Side.

Dr. A. E. Halstead showed a man, 30 years of age, who was operated for a left congenital inguinal irreducible hernia, which contained omentum at the time of the operation. The patient presented an interesting anomaly in the development of the testicle. After opening a very large sac and ligating off a portion of the omentum, he pulled up the cord, which seemed to be rather thick, and in doing so dislocated from the left side of the scrotum a pair of testicles. The epididymis was very large and fused, showing that two organs had originally existed. The cord contained two vasa deferentia, two spermatic arteries, two sets of veins, inclosed in one vaginal process. This double cord passed through the left inguinal canal. The right side of the scrotum and the right inguinal ring were empty. Both testicles came through the same inguinal canal.

Hodgkins' Disease.

Dr. D. N. Eisendrath showed a patient who had been under X-Ray treatment by Dr. J. F. Smith, during which time he had shown remarkable improvement. He said it was a case of very advanced Hodgkins' disease, in which internal treatment had been tried for a number of years without much benefit.

Dr. William M. Harsha reported three cases. The first was one of distended gall-bladder; the second an ovarian cyst with twisted pedicle, and the third an ovarian cyst, gangrenous from twisted pedicle.

Dr. A. J. Ochsner had seen several cases of intestinal obstruction, and in each instance the obstruction was supposed to be mechanical. He had opened the abdomen a number of times in cases in which there was obstruction opposite the entrance of the common duct, in which there was a distended stomach and distended duodenum, and upon lifting the transverse colon the jejunum was found in the same condition which one sometimes finds other portions of the small intestine, simply assuming the form of a string, and in these cases the patients vomited bile as they did in case of mechanical obstruction. The obstruction was in the cystic duct, or, as in one case he saw, it was in the lower end of the gall-bladder, due to a wedge-shaped stone which had lodged in this position.

Symptoms of obstruction in connection with ovarian cysts, with twisted pedicles, were not so very uncommon. He had seen such cases, and in one the patient's abdomen was opened by a country physician for the relief of the obstruction, and finding a black mass, the patient was transported to the Augustana Hospital in this city, and the speaker found the condition which the essayist described in his second and third cases. He recalled several such cases among his cases of twisted pedicle, one an early one, in which he and a number of others made a diagnosis of volvulus, but operation showed the presence of an ovarian cyst, with twisted pedicle. It was easy to make a wrong diagnosis in such cases, because the history corresponded to that of a volvulus.

Brown Atrophy of the Heart as a Result of Cholecystitis and a Complication of Cholecystectomy.

Dr. Bayard Holmes stated that in the progress of surgery into the domain of internal medicine no advance had offered more brilliant results than the surgery of the biliary tracts. There were, however, mysterious dangers connected with operations upon these patients which had so far defied either prognostic diagnosis, on the one hand, or pathologic interpretation, on the other. In operations upon the biliary tract the fear of cholemia, of hemorrhage, of complete suppression of urine, and of unmeasurable shock, deter experienced operators from a too sanguine prognosis and a too impetuous surgical interference. A number of unexpected deaths had occurred after cholecystectomy, and other rather brief operations upon the biliary tract, in which the necropsy had failed to show any gross pathologic lesion other than the changes in the heart and large blood vessels incident to any protracted toxemia. It was the writer's misfortune to meet one such unexpected issue in a cholecystectomy on a young woman where he believed himself warranted in making a most favorable prognosis. His experience in cholecystitis had called his attention sharply to the relation between this disease and easily recognized secondary disease of the heart, but no

previous instance had occurred in his practice calling his attention to the result of the very serious toxemia which the following case most tragically portrays:

Mrs. C., 32 years old, had a perfectly clear and unrelated family history, except perhaps the fact that her mother died of biliary disease. She had no serious sickness as a girl. Her menstruation began early, but was scanty. She always had a good digestion, was extremely active, and weighed ordinarily 136 pounds. Eight years ago she suffered from a protracted, painful disease of her left knee. This kept her off from her feet for several months. It was slow and insidious in its onset, only moderately painful, and produced a contraction and flexion of the knee which disappeared only after several months on crutches and a long course of massage and other treatment. She never had a typhoid or any other febrile or septic condition; but four years ago she had a sickness which was called the influenza. It never confined her to bed, but it materially interfered with her health. She has been married four years, and has never been pregnant nor suffered from any vaginitis or endometritis.

Occasionally, during the past eight years, she has had frequent attacks of stomach trouble and during the past three and a half years she has had severe abdominal pains terminating usually in vomiting. These attacks have been so severe as to require the use of large doses of morphine, and they have come on so suddenly as to interrupt a railroad journey. Her digestion has been poor in the intervals between attacks, and she has spent several months at water cures and in the south in search of health. She has very gradually lost considerable weight, estimated at 20 or 30 pounds, and has become weak, irritable, fretful, and somewhat hysterical.

Only twice during the past few years has she been moderately jaundiced for a day or two after paroxysms. She appeared to be an animated, high-strung, slightly cachectic woman, rather fair, weighing scarcely 100 pounds, but active, alert and irritable. She appeared slightly anemic, and her blood count stood at 4,600,000 red corpuscles, 7,400 white corpuscles, and a high hemoglobin index. Her conjunctivae were slightly yellow, and the blood vessels were dilated and tortuous, as she said, from retching and vomiting. Under her lower lid were dark lines from the same cause. The gums and teeth were in perfect condition, but slightly retracted and pale, with no blue line. The lymph glands in the back of the neck, at the elbows, axillae and groin were not palpable, except in the left groin above the affected knee a diffuse pocket was easily felt. The lungs appeared perfectly normal to percussion and auscultation. The area of cardiac dullness was normal, with the apex beat in the fifth interspace, three and a half inches from the midline. The heart sounds were regular and without murmur or noticeable accent. The area of hepatic dullness began at the fourth interspace and extended to the border of the ribs in the mammary line and normally elsewhere. On deep inspiration the region of the gall-bladder was excessively tender, but oth-

erwise there was no tenderness anywhere over the abdomen. There was no visible or palpable tumor. The stomach extended to a line an inch above the umbilicus. There was no splashing sound. The navel was not retracted, and contained no enlarged lymph glands. The right rectus was distinctly more tense than the left. A pelvic examination disclosed no abnormality. The cervix was small, hard, and showed no sign of present or past pregnancy. An examination of the urine developed nothing pathologic; its specific gravity was 1024; action reacid, 1.3 per cent of urea, no abnormal constituents, no microscopic elements except a few leucocytes. The attacks of biliary colic were so severe, so frequent and profused such digestive and nutritive disturbances, that he advised cholecystectomy. After a few weeks the patient returned for operation, and the routine examinations of the hospital confirmed the previous findings and established the previous indication. The author then described the operation in detail. Gas and ether were the anesthetics used. The nurse's record showed that the patient's pulse when she was placed in bed after operation was 104; her temperature 97½°, and her respirations 18. She was given ¼ grain of morphine hypodermically at 5:15 p. m., at which time her pulse was 93; her temperature 97.5°, and her respirations 24. She voided six ounces of urine, which was sent to the laboratory. At nine o'clock she was nauseated, and her pulse rose to 108. Her condition was reported to him and he ordered the dressings removed to look for hemorrhage. At ten o'clock she began to show cyanosis, and her pulse was 118, her respirations 30, and her temperature 97.6°. She was delirious, and died 25 minutes later, greatly cyanotic.

He considered it his duty to call the attention of the profession to the possibility of a septic change in the heart and the larger blood vessels incident to cholecystitis and the infection of the other natural cavities of the body, the sinuses of the head and face, the pelvis and calices of the kidneys, the appendix, the tubes, and the posterior urethra.

Dr. D. N. Eisendrath asked whether a search was made of all branches for embolism of the pulmonary artery or a blood clot lodged in one of the branches of the pulmonary artery, because those dangers were comparatively frequent after all abdominal operations? A number of such cases had been recently reported in Bruns' Beitrage and in Heidendoerfer's clinic.

Dr. Arthur Dean Bevan asked if death in Dr. Holmes' case could not have been described to an atheromatous condition of the coronary arteries? He had seen cases of death from anaesthesia, posted by competent hands, and yet nothing else was found at the post-mortem examination to explain the death except a general atheromatous condition, and especially atheroma of the coronary arteries. He thought it was too early to place the sudden death in Dr. Holmes' case in the category of cases which were now being very carefully studied of the late poisonous effects of anesthetics, accompanied with acid intoxication. These usually appeared later, seldom inside of thirty-six hours, and from that time on, and would be accompanied with fatty

changes in the liver and kidneys, possibly with the changes which Dr. Holmes had described also in the heart, although Dr. Bevan imagined they were chronic in character.

Dr. Holmes, in closing, said the changes were chronic in character. Furthermore, the autopsy was made with the utmost care, and the blood vessels of the lungs were examined for thrombi as well as the blood vessels of the liver and those in the neighborhood of the operation. The celiac axis was very extensively atheromatous, while there were only a few atheroma in the hepatic, gastric and splenic arteries. His opinion was that the woman died from disease of the coronary arteries, just as an old man of seventy might die after an anesthetic.

Dr. Keyes asked whether there was any dilatation of the heart?

Dr. Holmes replied that there was not.

Dr. McArthur asked whether there was any rise of temperature shortly before death, to which Dr. Holmes replied that it was subnormal after the operation; it was never normal, and it was 97.5° at the lowest. Immediately before death the pulse rose to 120, and during the last twenty minutes of life the pulse went down to 80 and 50, according to the count of the interne. The changes were so rapid that although he started for the hospital as soon as he heard things were going wrong, the patient was dead before he reached the hospital.

Dr. John B. Murphy reported a case of fibroma of the gastrohepatic omentum.

STOCK YARDS DISTRICT MEDICAL SOCIETY.

The Stock Yards District Medical Society held a meeting May 25, and the following paper was read:

PATHOLOGY AND TREATMENT OF SCARLET FEVER.

By Dr. A. Gaebler, 4801 Ashland Ave.

There are no pathological changes pathognomonic of scarlet fever. During the earlier stage the tonsils are ragged or sloughy and frequently covered with diphtheritic membrane; the cervical glands are swollen, perhaps beginning to suppurate; there may be cervical cellulitis; the internal organs are gorged with blood and there are minute hemorrhages on their surfaces. The heart, liver and kidneys are pale; Peyer's glands are swollen presenting a shaven beard appearance, and the mucous membrane of the intestines is injected. After a week or more septic changes are present; secondary pneumonia, metastatic abscesses and the characteristic changes of pleurisy, pericarditis, endocarditis, peritonitis, purulent meningitis, empyema or pulmonary gangrene may be found. There is a glomerulonephritis. The kidneys are large, flabby, pale on the surface, with minute hemorrhages and injected capillaries. On section minute abscesses may often be seen at the base of the pyramids. The tubal epithelium is swollen and opaque. Hyaline cylinders identical with the casts are found in the convoluted tubes and more abundantly in the straight tubes, along

with irregular masses formed from the exuded blood-plasma. In the tubes are red and white blood-cells. The glomeruli exhibit important changes. They become larger or more opaque due to the swelling and growth of the cells on and in the capillaries, "for the glomerular capillaries in their normal state are covered on their outside by nucleated cells, and flat cells line their inner surfaces in places, not continuously. On account of these cellular changes, the individual capillaries in the glomerules become indistinct, but the main divisions of the tufts are visible. In very severe cases the growth of the cells on the tufts is so considerable that they form large masses of cells between the glomerulus and its capsule. The muscular coats of the arteries are thickened and the Malpighian bodies may stand out like grains of sand."

This connective tissue growth Delafield considers characteristic, "involving not the whole of the kidney, but symmetrical strips or wedges in the cortex, which follow the line of the arteries. These wedges are small or large, few or numerous, regular or irregular, in different kidneys, but in every wedge we find the same general characters: one or more arteries, of which the walls are thickened; glomeruli belonging to these arteries, with a large growth of capsule; cells compressing the tufts; a growth of new connective tissue in the stroma around and parallel to the arteries. Between the wedges we find at first only the changes of exudative nephritis; later, a diffuse growth of connective tissue. If the nephritis is of acute type and longer duration, the tissue is denser and has more basement substance. Where the growth of the new tissue is abundant the tubes become small and atrophied. The exudation from the blood vessels is very considerable, so that the urine contains large quantities of albumin, many casts, and red and white blood-cells." (Delafield and Prudden.)

Treatment. Scarlet fever is a self-limited disease. No remedy has as yet been discovered that will either abort or greatly modify its course. Among the drugs that have at some time or other been vaunted as specifics may be mentioned: belladonna, sodium sulphocarbolate, quinine and sodium salicylate. They have all signally failed. Our hope lies in serum therapy. Our efforts should be directed towards meeting indications and preventing complications.

Isolation should be enforced to prevent spread of contagion. The patient should wear a light flannel night-gown and lie between blankets in a large, well ventilated room with an even temperature of about 70° F., with no drafts and plenty of sunshine. A bed sheet wrung out of 2% carbolic acid solution or some other disinfectant should be hung over the door; and all contaminated sheets, towels, etc., thrown into boiling water at once after being used. Not only the scale but also the blood, breath, urine and faeces are contagious. The quarantine should continue for about six weeks, depending upon desquamation and discharges, after which the premises should be thoroughly disinfected with formaldehyde or other efficient disinfectant.

Absolute rest should be enjoined for about three weeks.

The diet should be liquid, preferably milk. Also koumyss, buttermilk and later broths, soups and light puddings. The drinking of water should be encouraged.

The skin should be kept active and warm and be anointed daily with carbolated vaseline or sweet oil.

The tonsils should be swabbed with peroxide of hydrogen or other antiseptic and Tr. Ferri chloride may be indicated. Diphtheria will necessitate the administration of its antitoxin.

Cervical adenitis, if suppurative, will call for incision and drainage.

For irritability of the stomach calomel may be administered and the bowels kept open by saline laxatives.

High fever is best controlled by sponging or the cold pack. The child should be wrapped up in a sheet wrung out of water at 60° and rolled up in a blanket for one hour.

Cerebral symptoms, such as insomnia, headache and delirium, demand the application of an ice bag to the head and the administration of potassium bromide and chloral. Convulsions may require nitro-glycerine or chloroform.

The heart must be carefully watched and any attacks of dyspnea or evidences of cardiac dilatation met by digitalis. Strychnine, ammonia or alcohol may be required. There is great tolerance in this disease for the latter.

Scarlatinal arthritis usually yields promptly to salicin or the salicylates.

Otitis may call for paracentesis and local antiseptic treatment.

Should nephritis supervene, the diet must be reduced to skimmed milk and buttermilk, and water partaken of freely. Locally, dry cups or linseed poultices give relief. Diaphoresis must be induced by hot packs, hot vapor baths or warm baths supplemented by a flannel pack; or drugs such as pilocarpine, potassium citrate, liquor ammonia acetatis, etc. In suppression of urine large enemata of hot water sometimes give relief. Dropsy will require the use of some hydrogogue cathartic like compound jalap powder or cream of tartar lemonade. After relieving the initial congestion of the kidneys, stimulating diuretics are indicated, such as digitalis, which may be given as infusion together with potassium acetate.

NORTHWESTERN BRANCH.

The following paper was read before the Northwestern Branch of the Chicago Medical Society:

TREATMENT OF INFLUENZA.

By F. H. Pirnat, M. D.

The treatment in mild cases is simple. Rest in bed, combined with light diet, and the administration of analgesics usually suffice to cure the disease. Owing to the depression of the resisting power of the body and the liability to invasion of other diseases after an attack of influenza, a stimulating tonic is necessary during

convalescence. This restores good health to the patient, reinstates the normal resisting power and minimizes the possibility or the occurrence of sequelae.

Severer cases are treated symptomatically on account of the diversity of symptoms this disease produces. Being an infectious disease the patient should be isolated in a warm, well-lighted and well-ventilated room. Fresh warm air is particularly advantageous in the respiratory type. Sponge baths followed by an alcohol rub keeps the skin active. An initial purge of calomel, podophylin or four ounces of castor oil clears out the digestive tract, acts as a cholagogue and cleanses the tongue. Siedlitz powders or effervescent salts are more desirable to some patients.

The diet should contain light, nourishing and easily assimilable food, as toast, milk, soup of beef, mutton or chicken, tapioca, custards, jellies, egg nog, tea, coffee or cocoa. In the gastrointestinal form of influenza when nausea or vomiting or both exist, food must be withheld until the stomach will tolerate it. Starvation for a day or two relieves the symptoms, although champagne albumen or seltzer water is given to alleviate the thirst. In some instances nutrient enema must be resorted to, to maintain strength.

A more liberal diet should be allowed as soon as the pain has subsided and no complications exist, including eggs, bread, gruels, fruits, even meats and well cooked vegetables. Each case is a study by itself and the feeding must be governed by power of the individual to assimilate. Iron and pepsin acts efficiently in improving the debilitated recuperative powers as well as stimulating the appetite. In children, the aged and weak, active stimulation with whiskey, wine or strychnia is begun early and continued until convalescence is well established. The warmth of the body is maintained by woolen underwear, warm bedding and external heat to guard against sudden temperature changes.

These are three distressing symptoms which require energetic treatment: pain, coryza and cough. Pain is ameliorated to some extent by the external application of heat, friction or counter-irritation. Hot water bag, hot plates, bricks, salt and oats can be found in every home and are placed about the patient. Friction by the use of liniment or counter-irritants like mustard poultice, hot turpentine stupes act beneficially. However, the quickest and most permanent relief is obtained by the use of the coal tar analgesics. Acetanilid, antipyrin, phenacetin, etc., in 3 to 5 grains does not only relieve pain, but reduces temperature. The addition of salicylates, and quinine to the phenacetin can be used without injury and is very effective to the muscular form.

As a safeguard against the depressing action of the coal tar products upon the heart, small doses of caffeine citrate or strychnia can be added. Salicylate of cinchonidia 2 grains every two hours during the acute stage, not only relieves the pains, but has little depressing action

upon the heart, shortens the duration of the disease, and has none of the disadvantages of quinine. Analgesics should be stopped as soon as the pain has subsided and a tonic given.

Coryza is aborted by giving quinine 10 grains, Dovers powder 10 grains, followed by a hot foot bath and a drink of hot lemonade. A free perspiration is produced and relief obtained. The patient must be cautioned not to remove the bed covering or leave the bed until 4 or 6 hours have elapsed and the body properly cooled. The use of tr. gelsemium 10 gtts. with tr. aconite gtt. 1 followed by 10 grains of quinine acts similarly. Thirty grains of sodium bicarbonate every two hours in large draughts of hot water taken regularly the first day or 10 grains of potassium iodide in water at bed-time will abort coryza.

Local treatment by sprays, swabbing or inhalation of vapor gives temporary relief. A spray of Dobell's solution is the most commonly used. Five per cent cocaine hydrochlorate combined with two per cent sodium sulphate solution gives as complete effect as stronger solutions of cocaine alone, acts more rapidly and reduces the danger of toxic symptoms. Sprays cleanse the hyperaemic and swollen mucous membranes of adherent secretions and allow freer respiration through the nose. The combination of cocaine with adrenalin anaesthetize and contract the mucous membrane of the nose, thereby diminishing its irritability and lessening the amount of secretion. Swabbing has the same effect as spraying. The inhalation of vapor from camphor and menthol each 5 grains in 1 ounce of albolin gives relief and can be repeated at short intervals. Ammonia is added to make it more penetrating.

Coughs resulting from laryngitis, tracheitis, and bronchitis produced by the extension of the inflammation downward from the nose. The indiscriminate use of anodyne expectorants is to be deprecated. They irritate the stomach, produce constipation and retain the secretion in the air passages by stopping the cough. A moderate amount of cough is necessary to expel the material from the bronchi. Codeine $\frac{1}{4}$ grain, or heroin 1-20 grain, is called for if the cough is excessive, combined with ipecac or tartar emetic for the expectorant effect. The inhalation of steam vapor impregnated with one of the aromatic oils or tincture benzoin will relieve the cough caused by laryngitis or tracheitis. Hot turpentine stupes applied to the anterior chest alleviates the substernal pain and oppression of the chest. Turpentine in oil rubbed onto the chest protected by flannel has resolving power. The cotton jacket, however, is the ideal protector of the chest. When the cough is dry, a freer flow of mucous and serum is established by such expectorants as squill, senega, sanguinaria and apomorphin administered first in small doses, to be increased if necessary. In cases where the slightest irritation induces violent coughing out of proportion to the amount of expectoration acid hydrocyanic dilute or chloroform each one drop with small doses of heroin

is useful. When the physical signs indicate that freer expectoration is necessary, ammonium chloride or carbonate is given.

Pneumonia frequently complicates influenza and must be treated in the same manner as is followed where it occurs as an independent affection. Absolute rest in bed, plenty of fresh air, and quiet are of prime importance. The toxin of influenza being so depressing to the circulatory system, calls for cardiac stimulation to overcome the work added by the lung complication. Brandy and whiskey are the best stimulants and can be used for a long period of time without deleterious effect.

Strychnia has the advantage of being not only a cardiac but also a respiratory stimulant. When there is much embarrassment to the circulation on account of a failing right heart digitalis or strophanthus is given hypodermically 10 to 20 minims, to be repeated if necessary. Digitalis acts so slow when given by mouth that its hypodermic use is to be preferred. To obviate its vaso-constrictor action nitroglycerin is added as it stimulates the heart and dilates the peripheral blood vessels. Oxygen gas is a valuable agent to lessen the distress from air hunger and cyanosis. It should be passed through warm water and the stream of oxygen allowed to flow near the patient's nose.

Other complications are treated as independent affections, should they arise.

During the convalescence the greatest care should be exercised to avoid cold draughts of air, dampness and over-exertion. All physical efforts should be cautiously begun and carried out systematically, until the damaged circulation and nervous systems as well as other tissues in the body have regained their normal endurance. This will obviate future troubles, that follow indiscretions during convalescence. Fresh air in conjunction with tonics and carefully regulated, highly nutritious diet, improves the general tone of the tissues, regenerates and enriches the blood. The bowels, skin and kidneys must be kept acting freely, to eliminate the debris and toxins from the system.

The heart continues for a time to beat too frequently and is easily excited on exertion, due to lack of nervous balance or myocardial changes. In the former condition bromides act well, while in the latter case absolute rest is necessary. Our treatment must always be guided by the condition of the heart and blood vessel wall, as over-medication will be detrimental to these damaged organs.

Post-influenza, nervous exhaustion, mental disorders and continued cough are amenable to change of climate and surroundings, tonic treatment and rest.

Therefore the indications for treatment of influenza are first to eliminate the toxins, second preserve the strength of the patient, and last by judicious treatment of symptoms avoid annoying sequella.

WEST SIDE BRANCH.

Officers.

President.....John A. Robison, 297 Ashland Boul.
 Secretary.....J. J. Alderson, 264 S. Halsted st
 Delegate to Council.....A. I. Bouffleur, 100 State st

The Utility of Local Treatment in Certain Pelvic Lesions.

By George W. Newton, M. D., Chicago.

Local treatment of pelvic diseases is of service when used with intelligence, but it can be and has been very much abused, and I believe the abuse of this method of treating pelvic lesions has brought it into more or less disrepute. This mode of treatment has its limitations, and it has its indications. If used only when indicated, patients will be benefitted and unnecessary operations avoided. To treat any diseased organ intelligently and successfully, we should know what diseases can affect the organ and what is the etiology of these diseases. Finally, and what is of more importance, if that is possible, is the ability to make a correct diagnosis. Disappointment in the results after using local treatment is due to lack of ability to make a diagnosis and to lack of appreciation of what pathological conditions local treatment will relieve. The diseased conditions of the pelvic organs that are due to chronic congestion, rather than those due to infection, are benefitted by the depleting effect of glycerine.

To refresh our memories, we will classify pathologically the diseases that affect the organs in the female pelvis, and then we will review their etiology. In doing so, I shall quote from Hart and Barbour. The diseases of the female genital organs, classified from a pathological basis, are:

- I. Congestive. Vascular Rupture.
 1. Alleged simple congestion of the genital tract.
 2. Pelvic hematocele.
 3. Pelvic hematoma.
 4. Ovarian apoplexy.
- II. Hypertrophy.
 1. Hypertrophy of the vaginal part of cervix.
 2. Hypertrophy of the supravaginal part of cervix.
 3. Hypertrophy associated with lacerated cervix.
 4. Simple hypertrophy of organs.
- III. Atrophy.
 1. Atrophic pelvic peritonitis.
 2. Parametritis chronica atrophica, circumscripta et diffusa.
 3. Superinvolution of uterus.
 4. Kraurosis vulvae.
 5. Senile changes in organs.
- IV. Traumatism.

Cervical, vaginal, perineal and vulval tears.
- V. Simple inflammations.

Alleged simple, non-specific, inflammatory conditions of all genital organs.
- VI. Microorganismal and Parasitic.
 - A. Acute and chronic infective diseases.
 1. Tuberculous disease of peritoneum. Fallopian tube, ovary, uterus, vagina, and vulva.

2. Gonorrheal inflammation of peritoneum, connective tissue, Fallopian tubes, ovaries, uterus, vagina, vulva, and its ducts; pyosalpinx.

3. Actinomycosis of tube, ovary, and connective tissue.

4. Septic diseases: Acute peritonitis, cellulitis, oophoritis, salpingitis, endometritis and metritis. Septic source in cervix, vagina and vulva; pyosalpinx and hydrosalpinx.

B. Chronic infected diseases.

1. Cases where we have multiple lesions, usually where we have enlargement and displacement of uterus, with more or less endometritis and thickening of an inflammatory nature about the uterus. Cervical tears are often present.

2. Pathological versions and flexions.

3. Group with minor single inflammatory conditions of ovary, tube, peritoneum, connective tissue, often associated with endometritis.

C. Parasitic.

Echinococci in connective tissue, peritoneal cavity, uterus, tube and ovary.

VII. Herniae.

1. Hernia of uterus and appendages into inguinal canal.

2. Prolapse of uterus.

3. Vaginal enterocele.

VIII. New Growths.

Malignant and non-malignant.

IX. Displacement of uterus.

The etiology of all these diseases is not yet wellknown, but we do know that the abundant blood supply, the rich lymphatic arrangements, and the fact that the peritoneal cavity is not a closed sac, render a woman susceptible to certain diseased conditions in the pelvic organs.

The following microorganisms may cause trouble in the pelvis: The gonococcus, streptococcus, staphylococcus, bacillus tuberculosis, and actinomycosis.

Gonorrhoea and infection from childbirth or abortions are responsible for many of the ills of women.

Other recognized causes are constipation, prevention of conception, imprudence during menstruation, improper clothing, insufficient out-of-door exercise, improper and insufficient food.

The eruptive diseases occurring in young girls may cause abnormalities in the development of the sexual organs. Congenital malformations arise from an abnormal union of the Wolffian ducts and the ducts of Mueller.

It is generally understood that the term local treatment means the application of certain drugs to the uterus and vagina. From the list of diseases that we have just gone over, the number is small that I believe are benefitted by the so-called local treatments; that there are some is certain.

First, we will consider the diseases of the cervical canal; cases of endocervitis with erosion around the external os, either with or without a laceration of the cervix, can be benefitted by application to the cervical canal of tincture of iodine, or tincture of iodine and carbolic acid, or 20% solution of argyrol or protargol, after first removing the discharge with my brush. Much medicine has been wasted in these cases because doctors have put the drugs not upon the

diseased membrane, but upon the discharge, not being able to remove it by the usual methods, on account of its glue-like character. With this brush the membrane is quickly and thoroughly cleansed up to the internal os. Then the application can be made either with cotton on an applicator, or with a pipette. I never make application to the uterus beyond the internal os. If there is cystic degeneration, the cysts can be punctured and cauterized. For the erosion, insert against the cervix a tampon saturated with a one per cent. solution of creolin, which the patient is told to remove in twenty-four hours. Then she is given creolin to use in injections. If the endocervitis is due to or secondary to a laceration of the cervix, the tear should be repaired either by Schroeder's or Emmet's method.

I never try to treat endometritis, from any cause, by local applications to the endometrium. However, some women with an enlarged uterus will complain on examination of tenderness over their tubes and ovaries; they are suffering from catarrhal endometritis, catarrhal salpingitis and ovaritis, these conditions resulting from chronic congestion, which congestion may be due to chronic constipation or to the different methods women use to avoid conception.

We must not forget that you cannot have any organ chronically congested without some pathological process being established in that organ. In these cases, then, cure the constipation, stop the evil practices, paint the vagina with tincture of iodine, around about the cervix, once a week, and insert a tampon of glycerine and ichthyol twice a week. These cases do and will improve under this treatment. Such cases are advised to take a large hot douche in the recumbent position before retiring, after removing the tampon.

Again, women with subinvolved uterus, either after childbirth or miscarriage, with subinvolution or parenchymatous inflammation of the ovaries, will be benefitted by the application of iodine to the vagina, and by the insertion of glycerine and ichthyol tampons.

The absorption of exudates in the pelvis can be hastened by the application of iodine and the depleting effect of the glycerine. For old adhesions the Thure Brandt method of pelvic massage can be utilized to advantage, but one must be sure there is no pus in the pelvis or disaster may follow.

County and District Societies.

ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

Officers.

President.....Jno. A. Koch, Quincy
First Vice Pres.....J. M. Grimes, Camp Point
Second Vice Pres.....H. Hart, Quincy
Secretary.....Geo. E. Rosenthal, Quincy
Treasurer.....R. J. Christie, Quincy
Censors—Jos. Robbins, L. B. Ashton, E. B. Montgomery, Quincy.

Delegate to the State Society, L. H. A. Nickerson, Quincy.

Alternate to the State Society, R. J. Christie, Jr., Quincy.

The June meeting of the Adams County Medical Society was held June 12 at the Chamber of Commerce, Quincy, with President John A. Koch in the chair.

Those present were: Drs. Ashton, Bates, Christie, Hart, Knox, Knapp, Koch, Montgomery, Nichols, H. J., Nickerson, Rice, Robbins, Rosenthal, Pfeiffer, Wessels, Wells and Williams, W. W.

Dr. Robbins, as chairman of a committee appointed to confer with the mayor, reported that they had secured the promise from the mayor of the appointment of an advisory board, consisting of three physicians, to the local board of health.

Although this was not an altogether satisfactory result, still it was generally believed to be a step in the right direction.

Dr. Nickerson, delegate, and Dr. Christie, Jr.,

alternate, to the State Society, made their report to the society and both considered that the Rock Island members deserved hearty commendation for the successful meeting.

Dr. C. A. Wells presented the following paper: "The X-rays in Medicine and Surgery."

The paper was well received and discussed.

Dr. H. J. Nichols considered the subject of "Enterocolitis."

Adjournment.

BRAINERD DISTRICT MEDICAL SOCIETY.

Regular meetings held quarterly. Membership 80.

Officers.

President.....P. H. Oyler, Mt. Pulaski
Vice President.....C. A. Stone, Mason City
Secretary.....H. S. Oyler, Lincoln
Treasurer.....C. C. Reed, Lincoln

THE DOCTOR'S POSITION.

By Irving Newcomer, M. D.

The physician, of all people, should be a philosopher to do most good to the greatest number of people. This will reflect more on his own career than on any one else's. I refer especially to his attitude toward other physicians and necessarily his relations with his own and other physicians' patients.

The county medical societies throughout the State have had a wonderful influence along this line.

It has always occurred to me that it is a difficult matter to know people or things without being associated in some direct way with them. The greater number of experiences, the

more intimate the relationship, consequently less foreign is the person or thing. How then can we expect to see, understand and appreciate people and outside affairs without an intelligent understanding of them?

The county society has done and is doing much to place physicians' affairs on a common basis and allow us to see that there really is a little good in our neighbor.

The physician is placed in a different position from anyone in another calling. He is expected to hold up for his brother's mistakes as well as his successes, the latter of which sometimes seems the hardest.

Members of our profession cannot, as the legal profession, quarrel over our work and then think as much or more of each other than before, so this we certainly should avoid.

I know of two members of our society in a neighboring town who associate with each other sharing their sorrows and enjoying their pleasures together to the envy of all who know them. I would say that this was an effort on their part at first but now they have accustomed themselves to it until it is a part of their existence as well as the face is a part of their body; nor would they choose a different lot if they were privileged to do so.

If I were asked for an ideal way of practicing medicine, I would say that these two physicians have it and it is certainly worthy of imitation.

It is with deep regret that we are called upon to place upon the records of Brainerd District Medical Society the death of one of our members, Dr. P. L. Dieffenbacher, of Havana, Mason county, Illinois.

Dr. Dieffenbacher was born in Northumberland county, Pennsylvania, February 6, 1830. Came to Illinois in 1837 and settled in Mason County. In 1851 he returned to Pennsylvania and commenced the study of medicine, and in 1853 entered the Jefferson Medical College and graduated from that institution in the spring of 1855. He began the practice of medicine at Mt. Joy, Pa., immediately after graduating, remaining in Mt. Joy one year, when he came to Havana and located there, where he remained until that grim monster death enfolded him in his cold and leaden arms on the 29th of January, 1905.

In August, 1862, Dr. Dieffenbacher enlisted as first assistant surgeon in the 85th Illinois Infantry, serving as such until June, 1863, when he was promoted to surgeon with rank of major, and well and faithfully served his country until the close of the Rebellion.

Dr. Dieffenbacher united with Brainerd District Medical Society at its second meeting October 25, 1877, at Mason City, and was a faithful and influential member, contributing some very interesting and valuable papers to the Society. In the death of Dr. Dieffenbacher the Society has lost an honorable and valuable member, his patrons a courteous, kind and skilled physician, his family a model husband and parent.

In memory of P. L. Dieffenbacher, deceased: Whereas, it has pleased our Almighty Father

in His infinite wisdom to take unto Himself one of our most worthy members of Brainerd District Medical Society; and,

Whereas, the Society has sustained an irreparable loss in the decease of our member and a still heavier loss sustained by you who were nearest and dearest to him;

Therefore, be it resolved, that we extend our heartfelt sympathy and condolence to the family of our deceased member in these their dark hours of sorrow, committing them into the hands and care of Him who doeth all things well, knowing that he is able to sustain them in their trials, troubles and afflictions.

And be it further resolved, that a copy of these resolutions be sent to the family of our deceased member and a copy be placed on the records of the Society.

L. L. Leeds,
James L. Lowrie,
A. M. Sargent.

NASAL POLYPI.

By A. E. Prince, Springfield.

In response to your invitation I have chosen for a title to this short paper, "Nasal Polypi."

I am prompted by the selection by the hope that I may be able to present a modern conception of these growths, which will make you more courageous in operating or referring cases for operation. The old idea has prevailed several centuries; the new is a conception of the first years of the present century. Most textbooks will still teach and may teach for considerable time to come the old story, but the new conception will, in time, supplant the old.

The pathology has not materially changed, but the old treatment has been superseded. The hypertrophy of the mucous membrane—the determination of an excessive supply of liquid to the part, the swelling or budding of the surface, the development of a separate tumor without much vascularization; the growth until it filled all the space and ran over into the pharynx or out of the nostril, is the old picture of a myoxma or oedematous polypus.

The epithelium is columnar and ciliated if it originates in the superior nasal chamber; non-cellate in the lower. The stroma is separated by the effused serum, and the space filled and distended in varying degrees. When a pedicle may be demonstrated, it is found to be composed of the same physiological stroma, more densely packed. There is no malignant feature except that of recurrence and that to such an extent as to disgrace everyone who attempted its treatment.

The old treatment consists of an effort to remove this growth by the forceps with snare through the nostril, and the result has always been a failure. I used to dread the sight of a case because I felt sure my effort would fail. I usually failed to discover the origin of the growth and I got very little pleasure from their treatment.

After a time, and several years before this present era of treatment dawned, I began to be more radical. I invented some instruments which were designed to remove the bone as well as the mucous membrane. I violated the in-

structions of the treatises on the subject, and proceeded to remove portions of the middle and inferior turbinated bones, which would enable me to reach the origin and cut out more mucous membrane together with the pedicle, also afford a visible field for the discovery of the first evidence of a return, and permit the introduction of the galvano cautery point. After that I got on better. I began to say, "I will try and hope to cure you," in place of "I will relieve you now, and operate later from time to time until you are discouraged, and try other doctors." In the majority of cases I succeeded, although in many I only went to the threshold. It was the beginning of modern nasal surgery, and the placing of this department among other departments of radical surgery which marks the birth of a new epoch.

The polypus was traced to the depth of the frontal sinus—ethmoid sinus—sphenoid sinus and maxillary sinus and it was found that the cause of former failures was the fact that the growth was only pulled in two at the osteomaxillary or other openings. Dissection demonstrated that this hiatus semilunaris which is bathed in secretion from the antrum of Highmore was the most frequent source. New buds only waited until the smothering polypus was removed, when they would start up and race for first place in the turbinated spaces. It was found that they could not be reached without the removal of the middle turbinated plate, and it was found that after this was done, and the abnormal secretion from the sinus corrected, the vicious tendency disappeared, and the growth did not show the same tendency to develop.

By degrees it was discovered that the origin of a polypus depended on a condition of empyaemia or suppuration. It was found that many polypi originated about the oestia of the cavities, and were kept in existence by a chronic overflow of pus. It was the research which led to the cure of the empyaemias that marks the old from the new.

The modern idea is the cure of the empyaemia, it being now well understood that the procedure required to eradicate an empyaemia will produce a condition unfavorable to the regrowth of a polypus.

It is not my purpose to burden you with detailed description of operations. The names of the pioneers most prominent before the profession are Kuster, Caldwell, Luc, Jansen, Killiam and Kunt.

The relation which these names bear to the various procedures for reaching and eliminating or draining the various cavities, will interest those who endeavor to render themselves proficient in this department.

The general practitioner will be more interested in reviewing the modern mode of operating burdened with the least possible detail. To him who wishes a good index to the various operations and their respective merits, I will recommend an article by Dr. W. L. Ballenger in the Medical Standard entitled, "The Care of Chronic Suppuration of the Accessory or Nasal Sinuses."

Our limits will permit only a few notations in passing.

1st. Maxillary Antrum. The most noteworthy encroachment is in the treatment of the antral abscess. Formerly almost all cases were treated through a small perforation into the antrum after the removal of the second canine or first second molar. Through this opening the cavity was irrigated until the patient was either cured or discouraged. When the suppuration was due to a diseased tooth success was the rule but when it was sufficiently chronic to origin a polypus in the antrum or about its osteum, a more radical procedure was required. Often the antrum was found traversed by partitions, which it was found necessary to remove before good drainage could result. To this end it was necessary to render the cavity accessible to large instruments.

Kuster met the requirement by removing the anterior wall of the antrum. This opening is large enough to admit the little finger and a rhinoscopic mirror can be introduced, and the cavity searched. Through this opening all diseased tissue may be curetted or removed. In many cases complete cure can be effected. In other cases it is not sufficiently radical. Polypus cases usually require nasal drainage.

Drs. Caldwell and Luc have perfected an operation, appropriating the Kuster method, and extended the operation to the nose, thus securing free drainage and allowing the opening in the canine fossa to heal.

This operation (Kuster), though more successful than any former procedure, may be regarded as a transition period in the development of the radical operation, which deals with the entire polypoid area.

Caldwell, Luc and Jansen have formulated procedures which have for the goal the removal of the naso-antral wall and the establishment of free communication between the nose, sphenoid ethmoid and antral cavity. The anterior two-thirds of the inferior turbinated bone is removed, and an opening effected below the osteum of the lachrymal duct. This opening is made from the antral side as a further step in the Kuster operation, or it may be made from the nasal side, for which I have had a chisel designed to cut at an oblique angle, and admit a Rouger forceps, with which a sufficient portion of the naso-antral partition is excised.

Should the origin of the polypoid pedicle not be found in the maxillary antrum, it will next be required to open the cells of the ethmoid and continue the exploration until the limit is reached. This may carry the operation to the osteum frontalis, for it is not infrequently found that the secretion of the frontal sinus acts as an irritant, and produces granulations and polypi which originate about the osteum frontalis, and in its course into the nose, fill and obstruct the infundibulum. Occasionally it may be found that a chronic empyaemia of the frontal sinus will defeat the permanent recovery unless a radical operation for the obliteration of the frontal sinus be undertaken.

This operation, which consists of the external removal of the frontal plate, and the removal of the mucous membrane and obliteration of the frontal cavity is more popular in

Germany and the free clinics of the East than it is likely to become in the West, where appearance is respected. It results in considerable deformity, and most of us much prefer a partial cure than to submit to such a radical operation, with its consequences, which are often worse than the disease. It is well shown that very few deaths result from empyaemia of the unmolested frontal sinus, yet a much larger proportion have followed operative attempts on the sinus. This is due to the fact that the curettement destroys the pyogenic membrane which forms a barrier to the invasion of the germs, and after this is violated the micro-organisms find their way along vessels or crevices and into the cranial cavity. Also, the orbital plate is often penetrated, and the pus may drain into the orbital cavity, and create disturbances many fold worse than the disease.

Besides this, it is very difficult to avoid the pulley which lodges the tendon of the superior oblique muscle, and an intolerable and incurable cecropia is the result.

With this consideration in mind, you may infer that prudence prompts palliation before advising the invasion of the frontal sinus in efforts at radical cure of nasal polypi. Personally, I will say that I failed to get a satisfactory result in but one case, by the intranasal operation, carrying the curettement to the nasal opening of the infundibulum and following this by the use of the galvano cautery.

Polypi have been found to originate from empyaemia of the sphenoid. Such a case has never fallen to my lot, hence I have no experience to report. The sinus is not infrequently opened for empyaemia, and the operation is not attended by serious danger.

In reviewing the source of nasal polypus, I have omitted details relative to technique, it being my purpose only to outline the thought which distinguishes our conception of nasal polypus of today from that of yesterday. Then we temporized and palliated; now we strive for complete recovery, and in the majority of cases succeed in effecting a permanent cure.

REPORT OF A CASE OF LYMPHATIC LEUKEMIA WITH MICROSCOPICAL DEMONSTRATION.

By Dr. Oyler.

Leukemia is essentially a disease of the blood making organs. "It is characterized by a great and persistent increase in the number of white blood corpuscles, diminished red blood corpuscles, and lessened amount of hemoglobin. Associated with these blood phenomena are changes in the spleen, bone marrow and lymphatic glands. There are two distinct types of leukemia, the myelogenous or spleno medullary affecting the spleen and bone marrow and the lymphatic with its origin in the lymphatic structures.

In this country leukemia is not uncommon, but most cases reported have been observed in the larger hospitals in the cities. As to the etiology of this affection very little is known, but many theories have been advanced.

Malaria, syphilis, infectious diseases, injuries, etc., have been given as causes, and in a few instances there were good reasons to believe there was an hereditary influence.

A few authors believe that leukemia is an infectious process but others do not. In 150 cases studied by Gowers, 30 gave a previous malarial history, while in the cases under Osler's observation 7 out of 24 gave a malarial history. In women the disease seems to be most common about the climacteric, but some cases have developed during pregnancy. The hereditary factor in leukemia is plainly demonstrated in the case reported by Cameron, of Montreal, where a woman had given birth to two non-leukemic children, developing the disease even before the mother showed symptoms and the second child died of a plain case of leukemia. In this instance the mother, brother and grandmother of the woman had died from some trouble very much like leukemia. However, no specific cause has ever been determined, and most of the various views have met with little acceptance.

As to the clinical features of leukemia, the persistent increase in the size of the spleen is the most important. This organ may enlarge to an enormous size, filling one-half of the abdominal cavity. Anemia is usually but not always present, and this as well as the size of the spleen may vary in the different types of the disease. Oedema of the legs and ankles may be present but is not a constant symptom. Hemorrhages of some sort usually occur during the course of the disease and death may result subsequently to an attack of epistaxis or hemothemsis. The special senses are often involved, especially sight and hearing, usually the result of a hemorrhage taking place in the retina or semi-circular canals. In the lymphatic type the persistent enlargement of the lymphatic structures always takes place, and the superficial lymphatic glands may attain the size of hickory nuts during the course of the disease.

At post mortem examinations it is found that the bone marrow is one of the principal seats of the myelogenous type and by many of the leading pathologists is considered the original primary seat, the spleen being only passively connected with the disease. In the lymphatic type the lymphatic structures are found to bear the chief brunt of the disease.

The diagnosis in either type of leukemia cannot be made without the blood findings, and this is one of the few conditions wherein the diagnosis can be made by the blood findings alone. However, the blood picture in both forms presents an entirely different picture.

In the spleno-medullary or commonest type of the disease, the white corpuscles are usually increased in greater numbers than in the lymphatic type. They are often increased to four or five hundred thousand to the cubic millimeter, and in some cases to 1,000,000. The characteristic feature of the blood picture is the presence of the myelocytes. They usually comprise about 30 per cent of the colorless elements. These cells are supposed to be derived from the bone marrow and are en-

tirely foreign to normal blood. They are large, mono nuclear, granular leucocytes resembling the large lymphocyte and can be distinguished from it only by the fact that they contain large neutro philic granules in the protoplasm, and the lymphocytes do not. The polynuclear leucocytes with large, coarse basophilic granules, and known as the Mast cells, are always numerous in this form of the disease. The eosinophiles are relatively increased and play a very conspicuous part in the blood picture, while the lymphocytes are relatively decreased in numbers, and both forms of nucleated red blood corpuscles are present, but chiefly the normoblasts.

As stated before, the blood picture in the lymphatic form differs materially from the myelogenous type. Here we have the enormous increase in the lymphocytes as the special feature, and the increase is in these cells alone. They may comprise as much as 99 per cent of all the colorless elements. They may number as high as three or four hundred thousand (per c. m.) but the leucocyte count in this form is usually not as high as in the myelogenous type. The myelocytes and nucleated red blood corpuscles are as a rule never present in this type. The leucocytosis in this form usually takes place in the smaller lymphocytes but in some cases the larger forms predominate. The red blood corpuscles in both types are decreased in numbers and often show a marked irregularity in their outline. They may be reduced to two or three million per cubic millimeter, making the ratio between as low as one to four. The hemoglobin is usually reduced in per centage, usually on an average to 50 or 60 per cent, but in some cases to 20 and 30 per cent, producing grave anemia. In all cases a thorough blood examination is of paramount importance, as it is by this means alone that we are able to differentiate leukemia from other conditions which simulate it very closely in clinical symptoms, such as splenic anemia and Hodgkin's disease, and often an enlarged spleen due to malaria, syphilis and malignant growths.

Leukemia may occur at all periods of life from earliest infancy to advanced years, but most of the cases of lymphatic leukemia occurs between the ages of eleven and twenty-four years.

Unfortunately in all forms of leukemia the prognosis is always very grave, but the lymphatic form seems to be more malignant than the myelogenous and may produce death in a few weeks. The treatment as a rule has been very unsatisfactory. A few cures have been reported, especially of the myelogenous type, by exposure to the X-rays for several weeks, but the latest reports show that the improvement was only temporary.

The other treatment is symptomatic, consisting chiefly of iron and arsenic, and proper attention to diet and meeting conditions, such as hemorrhages, etc., as they arise during the course of the disease, which may extend through a period of months or years and as in a few cases be of very short duration.

The case we desire to report was a case of lymphatic leukemia running an acute course. History is as follows:

Patient male; age 24 years; farmer. Family history negative. Was first examined in consultation with Dr. P. H. Oyler on Nov. 31, 1904, and up to this time had worked on the farm husking and scooping his corn, with the exception of a few weeks during which he was suffering from a small abscess in the palm of the right hand and a blister on the second finger of the left hand. The abscess healed rapidly, but the finger was very stubborn in healing, the whole tip and portion of the nail sloughing away, but afterwards he continued his work until applying for treatment. Had usual diseases of childhood, with good recovery. No history of malaria, syphilis or injury in region of spleen.

Habits good; does not use tobacco or alcohol in any form. Patient came to the office complaining of a feeling of distress in the region of the stomach, especially after eating. He had lately noticed his legs and ankles were swollen and he could not lace his shoes tightly. Any attempt at work during the last few days he would become almost exhausted, breath become short, and patient would become very nervous on any exertion. On examination patient was found to be well nourished. Weight about 165 pounds and height over 6 feet. Very slightly anemic, the visible mucous membranes were of a slightly pale color. Legs and feet edematous.

Thorax fairly well developed, nothing abnormal on percussion or auscultation. Pulse of fairly good volume, rate 90 per minute. Liver on percussion was found to extend two finger's breadth below the costal margin.

Spleen extends from sixth intercostal space in mid axillary line to a level with the umbilicus in the left mammary line. To the right it extends to the median line. The serrated edge plainly palpable, hard and firm, no tenderness on pressure. Examination of fluids: Urine, 24 hour sample, color, amber; transparency clear, acid sp. gr. 1022. No albumin by the heat and nitric acid test. No sediment. No casts or epithelial cells. Several films of blood were Wright's modification of Lieschman's method. The examination is as follows: Small lymphocytes in abundance, polymorphonuclear neutrophiles, and eosinophiles apparently about normal in numbers. No differential leucocyte count was made. Leucocyte count, 150,000 per cubic millimeter. Red blood corpuscles, 3,000,000 per cubic millimeter. The blood picture is one of lymphatic leukemia. At this time there is no visible enlargement of superficial lymphatic glands.

Hemoglobin estimate by the Talquist method, 80 per cent. During the second week of the disease the lymphatic glands, in the cervical, inguinal, axillary and supra clavicular regions, became enlarged and patient spoke of having kernels all over his body. During the course of the disease, which lasted but 30 days, the lymphocytes increased in numbers and the leucocyte count during the fourth week was 250,000 red blood corpuscles 2,500,000, hemoglobin per-

centage, 60. Patient at this time very anemic, visible mucous membranes very pale in color, and hearing affected. Epistaxis became a very annoying symptom at this time, and death resulted on Dec. 30th subsequent to one of these attacks. The treatment was simply iron and arsenic. Patient could not afford to take X-ray treatments, and as he would have to leave home, living six miles in the country, it was not advised.

One of the most interesting features of this case is the shortness of duration, being but 30 days after the appearance of the onset of the symptoms until death ensued. Cases are reported in which death occurred in 30 days, and McCrae reports a case which proved fatal in 11 days after the onset of the symptoms.

CLAY COUNTY MEDICAL SOCIETY.

Officers.

President, W. E. Burgett.....Louisville
Vice-President, J. V. Dillman.....Ingraham
Secretary, C. E. Duncan.....Flora
Treasurer, W. F. Fairchild.....Flora
Board of Censors, Drs. W. E. Burgett, J. V. Dillman and C. E. Duncan.

The Clay County Medical Society held its regular June session at Louisville, Tuesday, June 13th, at 2 P. M.

The following members were present: Drs. Falley, Dillman, Jno. Shore, McKuelly, Burgett, Steely, Gibson, Boyles, Fairchild, Bowman and Duncan.

The above officers were elected for the ensuing year.

A committee presented the following resolutions which were adopted by the Society:

The Clay County Medical Society, desiring to express their sorrow for the death of Dr. S. F. Dillman of Ingraham and their sympathy for his family and friends, adopted the following resolutions at their June meeting held at Louisville:

That in the death of Dr. S. F. Dillman, the Clay County Medical Society has lost one its most active and efficient members, who was well beloved by the Society.

That by his death the people of Ingraham and its adjacent territory, have lost a skillful and faithful physician, a keen diagnostician, and one who never wearied in endeavoring to alleviate the pain and relieve the suffering of his patrons.

That by his death the widow has lost a true and loving husband, his children a loving, wise and kind father, whom they will greatly miss.

That it is the sense of this Society that in losing his life at the post of duty, he is an example of the untiring effort of the medical profession whose sense of duty is exemplified in the sacrifice of the individual for the good of many.

Resolved that a copy of these resolutions be sent to the widow, one spread on the records

of the Society and one published in the county and one in the State Journal.

R. L. Fally,
J. V. Dillman,
N. W. Bowman.

The members of the Society discussed informally the **Treatment of Tuberculosis.**
Adjournment.

DECATUR MEDICAL SOCIETY.

Regular meetings are held in the Decatur Club Rooms the fourth Tuesday of each month
Membership 62.

Officers.

President.....E. J. Brown, Decatur
Vice President.....Ellen F. T. Grimes, Decatur
Secretary-Treas.....Benj. Bachrach, Decatur
Board of Censors: S. E. McClelland, Lynn M. Barnes, Cass Chenoweth.

Program Committee: Benjamin Bachrach,
Chairman: J. Huston Spyker, W. H. Bell, C. M. Jack, E. J. Brown.

The regular monthly meeting of the Decatur Medical Society was held in the Decatur club, May 23, 1905. A conjoiner meeting had been arranged with the members of the Decatur club, for the purpose of discussing the subject of a new hospital for Macon county. Reports were read by members of organizations, who in a small way, have been trying to raise funds for a Macon County Hospital.

Mr. Meyer J. Sturm, a Chicago architect, then read a paper on the construction of Hospitals for smaller cities.

Following these papers, the subject was generally discussed by members of the Medical Society and the Decatur club, the opinion prevailed that the time was not right for the building of a new hospital.

LA SALLE COUNTY MEDICAL SOCIETY.

Meetings are held annually. Membership 50.

Officers.

The above officers were elected for the ensuing year:

President, C. D. Chalfant.....Streator
V. President, A. J. Roberts.....Ottawa
Secretary, W. A. Pike.....Ottawa
Delegate, J. W. Pettit.....Ottawa
Alternate, P. M. Burke.....La Salle
Censors: Burke, Sterrelt, Ensign.
Committee on Legislation: Pettit, Cook and Hirsch.

The fifty-second annual meeting of the La Salle County Medical Society was held in conjunction with the Marshall County Medical Society at Rutland, Ill., April 25, 1905.

Meeting was called to order by President F. A. Guthrie in Masonic hall at 10 a. m. Members present, La Salle county—Ensign, Guthrie, Chalfant, Hirsch, Dicus, Weis, Pike, Pettit and Burke.

Marshall county—Potts, Kemp, Hendricks and Potts.

Visitors—Downey and Fogg.

Minutes of the previous meeting together with the treasurer's report were read and approved.

The following applications for membership were received and on report of Board of Censors,

duly elected: Drs. E. E. Perisho, E. K. Ayling, C. C. Lowry, A. C. McIntire, Geo. Love, J. W. Carr, T. W. Gillespie, Wm. Schoenneshoefer, J. W. Garrard and S. G. Peterson.

The matter of certain bills now before the legislature was discussed and a committee appointed to draw up a set of resolutions opposing same, copies of said resolutions to be sent to the various legislators of our district.

During the day the members were entertained at dinner by the local profession and citizens of Rutland and many of the members accepted the invitation of Mrs. Hicks tendered by the superintendent to visit the coal mines.

The following program was presented:

Address of President J. W. Potts, Lacon.

Address of President F. A. Guthrie, La Salle.

Office Gynecology, T. W. Gillespie, Lostant.

Bedside Lessons, C. D. Chalfant, Streator.

A Case of Pneumonia, R. C. Fullenwider, La Salle.

Medical Value of Drugs, S. O. Hendricks, Henry.

Treatment of Compound Fracture of the Leg, P. M. Burke, La Salle.

Open Air Treatment of Tuberculosis, J. W. Pettit, Ottawa.

Resolutions endorsing Dr. J. W. Pettit for the office of Secretary of the State Board of Health were unanimously adopted.

Place of next meeting, Lostant.

After extending a vote of thanks to the medical profession of Rutland, the entertainment committee, the citizens in general and especially Dr. W. O. Ensign for their hospitality and generous entertainment, adjourned.

McLEAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Bloomington the first Thursday of each month. Membership 95.

Officers.

President.....A. L. Fox, Blomington
Vice President.....W. R. Shinn, Chenoa
Sec'y-Treas.....Robert A. Noble, Bloomington
Board of Censors: J. K. P. Hawks, chairman;
E. L. Brown and J. L. Yoltan.
Delegate to State meeting, F. C. Vanjervort.

Early Operation, the Conservative Treatment of Appendicitis.

Robert A. Noble, M. D., Bloomington, Ill.

So much has been written concerning appendicitis, both from a surgical and a medical standpoint, that it would seem as though the subject had long ago been exhausted. However we may agree on the proper course of treatment to be pursued in each individual case, there is no question, but that appendicitis is purely a surgical disease and as such calls for an early appendectomy.

That appendicitis is a serious and perilous disease, there can be no doubt, when we consider the immediate mortality from acute appendicitis, the length of each attack, the tendency toward recurrence and the increased danger of each subsequent attack. The natural course of appendicitis is progressive and destructive. There is no safety in rest, starvation and delay. Such temporizing can be lead to the gravest

dangers, resulting in disaster which is uncontrollable and irremediable.

The physician often hesitates to recommend operation, even when he believes that the safest course and the only method of recovery is in appendectomy, for fear that the family or the patient may refuse treatment and that this particular patient may make a temporary recovery without operation in the hands of his less conscientious brother practitioner.

It is only the physician with a scientific conscience and a human heart who, after several disastrous experiments with expectant treatment and after the gratifying results following an early and immediate operation, has the courage to stand up for his convictions and conscientiously and sympathetically insist upon an early appendectomy. The danger in appendicitis, does not lie in the operation performed, but in the neglect or failure to have an operation done, thereby allowing the dangerous complications of appendicitis to develop. The operation for appendicitis, at whatever stage of the disease it may be performed, adds absolutely no additional risk to the course of the disease.

When a case of appendicitis terminates fatally under the careful regime of the "rest treatment" in less than twenty-four hours from the appearance of the first symptom; when a patient is lost as the result of a peripindicular abscess, or recovering sufficiently to get up and go about miserably for a month or so, finally submits to an operation and then dies from general peritonitis, it is about time that we put aside all consideration of temporizing and juggling with so treacherous a disease and earnestly, conscientiously, systematically and emphatically, insist upon the early removal of the offending organ.

The complication with which we most frequently have to deal and the one which as a rule yields most readily to treatment is the formation of a peri-appendicular abscess. We frequently hear this condition referred to as benign and favorable, some physicians even going so far as to state that we have no indications for an operation until after the abscess has formed. When such a condition does exist, the patient is beset with the gravest and most uncertain danger.

The following case illustrates some of the complications with which we have to deal in a case of appendicitis and emphasizes the foolhardiness of temporizing with so treacherous and dangerous a disease.

S. C., female, aged ten. Family history, negative. Personal history, had always been a healthy child, but had been troubled with constipation. April 2, 1903, while playing about the house, she was suddenly seized with a pain in the pit of the stomach. Shortly after the inauguration of pain, she became severely nauseated and vomited several times during the day. The mother was an intelligent woman and administered a laxative, which she followed up, in the course of two hours, with an enema, stopped all food and placed the patient in bed. The pain increased in severity and there was little cessation in the nausea and vomiting during the day. About 8 p. m. of the same day we were called to the child and after obtaining the above his-

tory, found the temperature 103 degrees, pulse 120, exquisite tenderness over the entire right iliac region, slight pressure over the region of the appendix tending to produce nausea, tympanities and extreme rigidity of the right rectus muscle. We advised removal to the hospital and immediate operation, but this was refused by the mother. The mother was then informed that we would not be responsible for the outcome of the case and that she must assume the responsibilities as she would not accept our advice. Under the Ochsner treatment, the patient made an apparent recovery and after two weeks was able to be up and go about as usual. Again we advised operation, but the mother would not consent. Six weeks from this time the patient was again seized with a violent pain in the abdomen. When the patient was seen four hours after the second onset, the facial expression was anxious, pulse 150, temperature 101 degrees and she presented the appearance of being in an extremely toxic condition. The mother was advised that the patient's condition was practically hopeless but an operation was urged. Inasmuch as the patient had made a recovery from the first attack, the mother urged that we wait until the following day for her to make up her mind to consent to an operation. The following day all of the symptoms were aggravated and after much delay the abdomen was opened at the now earnest request of the mother, when the patient was practically moribund. The operation revealed a large peri-appendicular abscess, together with gangrene of the colon and ileum, rupture of the bowel and fecal contents in the abdominal cavity. Needless to say, the patient succumbed and was duly reported as "dying as the result of an operation for appendicitis."

This patient had doubtless carried the abscess from the time of the first attack, and some unusual exertion or strain produced a rupture of the abscess, which was followed by general peritonitis.

A considerable number of operators and clinicians advise against operative interference after a certain definite time, usually the end of thirty-six to forty-eight hours after the first symptoms of appendicitis have appeared, claiming that from that time until the fifth or sixth day, appendectomy is more dangerous than the expectant treatment.

Such teaching must be the result of a misunderstanding as to the dangerous character of this disease and is in a measure responsible for the high mortality rate of acute appendicitis. We should not be guided by any set time limit, as to the time of operation, but should act promptly and in accordance with the conditions present.

The following case illustrates the inadvisability of temporizing.

B. D., male, aged 19. Occupation, baker. Dec. 25, 1903, he was taken violently ill while at work at his trade. After being nauseated, he felt relieved and continued at his work until 6 a. m., when he went home. Upon his arrival at his home he went to bed and sent for a physician. The doctor gave a hypodermic injection,

which relieved the pain somewhat, and advised the application of hot compresses, to be continued until the pain was relieved. Temperature was reported to the patient's mother as 104°, pulse 108. There was considerable nausea and vomiting and pain during the day and in the evening the patient was delirious for some time. The doctor was again called and relieved the conditions with a hypodermic injection, but the patient had a very restless night. On the morning of the second day the temperature was reported as 103.8°, pulse 120. Pain all over the abdomen and patient delirious about half the time. Morning of the third day, temperature 103°, pulse 120, pain over the right side and patient still delirious at intervals. Toward evening the delirium increased and the doctor was called, but as he was not at home we were called to see the patient and received the above report.

When we saw the patient the temperature was 104.5°, pulse 140, tympanities, pain over the right iliac region, great rigidity of the right rectus and patient in partial delirium. Removal to the hospital was advised and refused. The following morning the temperature was 105°, pulse 150, patient in great distress and every indication of rapidly growing worse, so we insisted very emphatically on removal to the hospital and immediate operation. As soon as possible the patient was removed to St. Joseph Hospital and taken to the operating room. Just prior to beginning the operation, his temperature was 105.5°, pulse 180. His condition was, to say the least, unfavorable.

Upon opening into the abdominal cavity, we found a large periappendicular abscess from which a large quantity of pus flowed and we were so fortunate as to find the gangrenous appendix lying at the bottom of the wound and it was removed. At the junction of the appendix with the cecum, there was an opening into the bowel from which fecal matter was passing. A Mickulicz drain was inserted, together with a large rubber drain, and the patient removed from the operating room. Immediately following the operation, the pulse dropped to 140 and the temperature to 104°. The patient was delirious for two days and for five weeks his temperature varied from 103° to 107°, but after the fifth week the temperature began to drop and rapidly reached the normal level and at the end of two months the patient left the hospital with a fecal fistula which closed in about six weeks after leaving the hospital. Since that time the patient has been in excellent health and has worked regularly at his trade.

In this enlightened age, when medical men have such grand opportunities for advancement, it seems well high incredible that any practitioner should elect to treat a case of appendicitis along purely medical lines. Not infrequently we are confronted with such a fatality, the consequences of which are best illustrated by the following incident:

R. L., aged 19, male. Occupation, tailor. Family history, negative. Personal history, negative. Sept. 10, 1903, he was awakened in the morning with "cramps" in the stomach and some

nausea. He drank some ginger tea, following which he vomited and became easier. In the afternoon he was up and about his room and ate a hearty supper that evening. Retired about 9 p. m. and slept soundly until 1 a. m., when he was awakened with "cramps" and severe pain in the abdomen. His distress gradually increased in severity and the pain became localized in the right iliac region. About 8 a. m. I was called to see the patient and finding positive evidence pointing to an acute attack of appendicitis, I advised his removal to the hospital and operation. Patient's brother stated that their father would arrive about 1:30 p. m. and said that they would prefer to wait until his arrival before deciding upon the course to pursue.

In the meantime I had them give the patient an enema and apply an ice bag to the right side. About 3 p. m. the sister of the patient telephoned that after the father's arrival they had called in Dr. Blank, who had confirmed my diagnosis, and stated that he thought he could cure the patient by means of medical treatment. She also informed me that Dr. Blank would have charge of the case. The patient was removed to Brokaw Hospital, where I again saw him about ten days after my first visit to him. He was being poulticed with Antiphlogistine and drenched with drugs, but strange to relate his appendicitis was improving slowly. He informed me that he had spoken to his physician about having an operation, and that the latter had assured him that he would be all right in a short time without an operation. After being in the hospital for three or four weeks, during which time (according to his hospital chart) the temperature was seldom below 100° and more frequently above 102°, he was discharged and sent to his home as "cured" by medical treatment. Within one week's time of his arrival home, he died from what the doctors called "general peritonitis, following appendicitis," but what might have been more aptly termed as the result of improper treatment. This was undoubtedly a case in which the attending physician lacked the courage of his convictions and failed in his duty toward the patient. Such an accident could in all human probability have been avoided had the patient had the advantage of proper treatment, which would have consisted in the early removal of the diseased appendix.

The complications which are the natural course of neglected appendicitis will eventually be looked upon as requiring an apology from the attending physician or surgeon. It is only under exceptional circumstances and in rare instances that the catastrophes of appendicitis occur without ample warning. The physician who permits these catastrophes to overtake his patient has failed in his duty toward the patient, either through the possible neglect of warning or from lack of decision. By conscientiously considering his own relations to each case, the physician becomes more appreciative of the diagnostic symptoms and acts more promptly in securing rational treatment.

Medical, dietetic and therapeutic measures have been tried without success. Not only are

these measures absolutely incapable of changing, modifying or improving the course of appendicitis, but they have been found to actually increase the danger to the patient. There can be but one possible excuse for the employment of any such measures and that is when it is impossible from whatsoever cause to give the patient the advantage of immediate, rational and skillful treatment.

The difficulties which sometimes beset us in arriving at a diagnosis; the presence of grave conditions in the abdominal cavity, without external evidence pointing to such conditions and the advantage of an early operation when we have discovered trouble in the appendix, are well illustrated by the following case:

A. E. R., male, aged 13. Family history, negative. Personal history, has never had any serious illness, but has had the ordinary diseases of childhood. About six months ago he came to me complaining of sleeplessness, loss of appetite, headache, night sweating, nervousness and stated that he felt all tired out and wished that I would give him something to make him feel strong at once. He stated that at various times he had had some pain in the stomach, lasting for short periods, but at no time had the pain been severe. Examination revealed practically nothing of importance except that there was distinct tenderness over the right lower quadrant of the abdomen. Unable to determine definitely the exact pathological condition present in his case, I placed the patient on tonic treatment, advised his removal from the school room, made repeated examinations and awaited developments. About the middle of December, 1904, while on a visit to the country, he had an attack of stomach ache with some nausea, which lasted two days. I saw him the third day after he was taken sick (he coming to my office), and found he had a temperature of 100°, pulse 100, considerable tenderness over the entire abdomen, no more on the right side than on the left, however, but at this examination I was quite sure that I detected slight rigidity of the right rectus and on the following day I stated to the mother of the patient that it was my opinion that the patient was suffering from chronic appendicitis, but that I had not sufficient evidence to warrant an immediate operation. From that time on I observed the patient every week and frequently twice a week. He continued to gain steadily in general health, nervous symptoms subsided, pain left the abdomen, appetite returned, temperature remained at normal and during January and February he gained six pounds in weight. During February I did not see the patient so frequently as he was improving, and I had about concluded that I must be mistaken in my opinion that he had appendicitis.

On the morning of the third of March I was called to see the patient and learned that he had awakened about 4 o'clock with some pain in the abdomen, slight nausea and headache. I found the temperature 100°, pulse 112, tongue coated, tenderness over the right iliac region, very slight rigidity, and inclination to nausea, upon pressure over the region of the appendix. I in-

formed the mother of the conditions present and advised removal to the hospital and operation, to which she consented. On the following day, just prior to beginning the operation his temperature was normal, pulse 90, scarcely any pain or tenderness over the abdomen, but increased rigidity of the right rectus. Upon opening the abdomen we found that the omentum was adherent to the abdominal wall, these adhesions requiring freeing before a finger could be passed into the abdominal cavity.

The appendix was located with little difficulty and freed from its adhesions and brought through the wound. The distal two-thirds of the appendix was noted to be very much swollen and showed fluctuation on pressure. After removal of the appendix, it was opened and found to contain a tablespoonful of pus. The abdominal wall was closed in layers and the skin with a subcutaneous suture. On the fifth day the patient sat up in a chair and on the eighth day he was removed to his home.

The lack of definite symptoms of appendicitis, the frequent examination without obtaining any positive facts on which to base an opinion, the masking of the conditions present by the very indefinite symptoms presented all point to the difficulties we must sometimes face in arriving at a diagnosis of appendicitis. The prompt recovery of the patient emphasizes the wisdom of the early removal of the appendix.

The treatment of appendicitis is so simple and the results of operative treatment so uniformly excellent, that it should be unnecessary to call the attention of medical men to the advantages gained by an early operation. The time is rapidly approaching when the physician who permits his patient to be overtaken by one or more of the various complications of appendicitis will be considered as failing to recognize his full duty to his patient, and in so doing he must be held responsible for the complications which may be imposed upon his patient.

The simplicity of the operation, the small percentage of fatalities, and the prompt and lasting recovery should weigh mightily in favor of the early operation as against the increased fatality, guesswork and uncertainty of trusting to Providence to save the patient.

MORGAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Jacksonville the second Thursday of each month.

Membership 12

Officers.

President.....J. W. Hairgrove, Jacksonville
Vice President..Josephine Milligan, Jacksonville
Secretary-Treasurer....D. W. Reid, Jacksonville

The regular monthly meeting of the Morgan County Medical Society was held in the Library. President J. W. Hairgrove in the chair. Present 14 members.

The subject of the evening was the discussion of the Health Ordinances of the city of Jacksonville. Dr. Carl E. Black, for the committee, read the following report of a proposed amendment to the city ordinances. The report

was adopted, and the committee directed to secure, in as far as possible, the signatures of the Jacksonville members and present the same to the city council.

An ordinance to create and establish a board of health in the city of Jacksonville, Ill.

Section 1. Appointment of members; term of office; vacancies: Be it enacted by the people of the city of Jacksonville, represented in the common council, that the mayor, with the advice and consent of the council, shall appoint five persons who shall constitute a board of health.

The persons so appointed shall hold their offices for five (5) years, provided that the terms of office of the five first appointed shall be so arranged that the term of each one shall expire on the 30th day of June of each year, and the vacancies so created, as well as all vacancies occurring otherwise, shall be filled by the mayor with the advice and consent of the council.

Section 2. Powers and authority of the board. The board of health shall have the general supervision of the interests of the health and life of the citizens of the city. They shall have charge of all matters pertaining to quarantine and shall have authority to make such rules and regulations and such sanitary investigations as they may from time to time deem necessary for the preservation or improvement of the public health, and it shall be the duty of all police officers and other officers and employees of the city to enforce such rules and regulations as far as the efficiency and success of the board of health may depend upon their official cooperation.

Section 3. Meetings of the board. The first meeting of the board of health shall be within fifteen (15) days of their appointment, and thereafter in January and June of each year, and at such other times as the board shall deem expedient. A majority of the members shall constitute a quorum; they shall choose one of their number to be president, and they may adopt rules and by-laws for their government, subject to the provisions of this ordinance.

Section 4. Officers and compensation. The board shall elect a health warden, who shall perform the duties prescribed by the board and by this ordinance, and he shall also act as secretary of the board. The health warden shall receive a salary which shall be fixed by the city council, and he shall also receive compensation for his necessary expenses incurred in the performance of his official duties, such amount to be allowed each year by the city council. The members of the board shall receive no compensation for their services. The president of the board shall quarterly certify the amount due the health warden, and on presentation of his certificate the mayor shall draw his warrant on the treasurer for this amount.

Section 5. Annual report. It shall be the duty of the board of health to make an annual report, through the health warden or otherwise, in writing to the mayor of this city on or before

the first day of June of each year, and such report shall include so much of the proceedings of the board, and such knowledge respecting disease and such instruction on the subject of hygiene, sanitation and quarantine as may be thought useful by the board for dissemination among the people with such suggestions as they may deem necessary.

Resolution—Dr. Wakely—Whereas, There has been in previous years a large loss of life and a great amount of serious personal injury resulting from the use of blank cartridges and cannon crackers on or about the Fourth of July, therefore be it

Resolved, That the Morgan County Medical Society recommends that the use of blank cartridges and cannon crackers be prohibited in the corporate limits of the city of Jacksonville.

Carried, and above resolution ordered given to the daily papers by the secretary.

Dr. Norbury reported a case of double hemiplegia and Jacksonian epilepsy in a child still living, at the age of six, undeveloped and imbecile, the trouble dating from two years, and remotely following a forceps delivery. He said that where operative measures promise anything in these cases of cerebral contusion with clot, it must be discovered and operated very shortly after delivery.

Dr. Reid reported a somewhat similar case, not so closely observed or described, where the child lived about two years, imbecile, with head wobbling in same manner, but not following a forceps or even a difficult labor. In comparing the results of forceps with those of version, he said that high authorities consider version a much more dangerous procedure than it was formerly thought, not on account of immediate foetal mortality, as on account of the constantly increasing list of foetal injuries laid to its charge, especially spastic paralysis developing as late as two years after birth. He reported briefly a case of face presentation with delivery of a live child.

Dr. Black reported a case of appendectomy during the course of an operation for anchorage of a floating kidney through the aperture made for the latter operation.

Dr. Hairgrove reported a case of enormously enlarged spleen with obscure symptoms, which proved to be a case of myelogenous leukemia with a white blood count of 590,000.

Dr. Adams reported a hedge-thorn puncture of the cornea, result favorable; also a penetrating injury from a strand of wire fence, entering the ciliary region. Result doubtful.

The librarian, on motion of Dr. Adams, was authorized to buy an engraved plate for use in the books in the library.

Adjourned to meet September 14, 1905.

WOODFORD COUNTY MEDICAL SOCIETY.

Officers.

President.....N. B. Crawford, Eureka
Vice President.....R. E. Gordon, El Paso
Secretary and Treasurer.....
.....Jos. I. Knoblauch, Metamora
Delegate.....James R. Tweddale, Washburn
Alternate.....R. E. Gordon, El Paso
Board of Censors—C. F. Banta, Eureka;
Eureka; James R. Tweddale, Washburn; F. H. Langhorst, El Paso.

After lying in a state of coma and stupor for 15 years, the Woodford County Medical Society emerged from that condition when, Aug. 24 last, Councilor W. O. Ensign of the Second District, Councilor O. B. Will of the Fourth District, some of the old members of the dormant society and other members of the profession in the county met in the rooms of the Commercial Club at El Paso. At that meeting the society was reorganized and the regular annual meeting called for the same old date when it used to be held, the first Tuesday in May, it being May 2nd. The place of meeting, Eureka.

Accordingly on May 2, 1905, the society met in the supervisors' room of the Woodford County court house at Eureka, with Dr. N. B. Crawford in the chair. About ten members, which is nearly the whole number of the reorganized society, were present. The forenoon was devoted to business matters entirely, during which time the above named officers were elected.

At noon the society was entertained at an elegant luncheon by the local profession.

After luncheon a good programme was had. The most interesting numbers in the programme were a paper by Dr. E. M. Sutton of Peoria on the treatment of appendicitis other than surgical, and the preservation of several patients by Dr. J. F. Page of Eureka showing the results of various operations. These numbers were very much appreciated, especially the paper of Dr. Sutton, since the subject is a very important one to the general practitioner and Dr. Sutton with his large experience in that line of cases is an authority.

Before adjourning resolutions were passed asking the members of the State legislature to do all in their power to prevent the passage of the bills, so obnoxious to the profession, that were before that body at that time.

The next annual meeting will again be held at Eureka and it is hoped that by that time all the members of the profession in the county will become members of the society.

General Superintendent Cooper of the St. Louis-Louisville lines of the Southern railway announces that Dr. C. H. Starkel has been appointed chief surgeon, with headquarters at Belleville.

New Incorporations.

West Chemical Manufacturing company, Chicago; capital, \$10,000; manufacture medicines and drugs; incorporators, Frederick E. Seeley, Edward E. Grace, Charles S. Miller.

Chicago Movement Cure, Chicago; capital, \$25,000; object, operate sanitariums; incorporators, Ed. C. Bates, Frances C. Olmsted, John P. Ahrens.

Dr. Charles W. James, dentist, Chicago; capital, \$2,500; object, operate dental laboratories; incorporators, Charles W. James, Edw. C. Crawford, Samuel J. Shaeffer.

The Anti-Ptomaine company, Chicago; capital, \$5,000; manufacture medicine; incorporators, Albina J. Chladek, Charles M. Thomson, James C. ———.

Ottawa Tent Colony, Ottawa; capital, \$30,000; tuberculosis sanatorium; J. W. Pettit, E. H. Butterfield, H. H. Bayne, incorporators.

Concresorium Company of Chicago, Chicago; capital, \$2,500; manufacture cancer medicine; incorporators, Carrie Jacobus, Gerhard Voegelé, F. H. Jacobus.

St. Margaret's Hospital, Spring Valley; not for profit; charitable; incorporators, John F. Power, H. J. Covey, Peter Höllerich.

National Home Remedy Company, Chicago; capital, \$2,500; object, manufacture medicine; incorporators, Isabella Goodwin Payne, John A. Fitzgerald, William F. Raftree.

Von Schill Manufacturing Company, Chicago; capital, \$35,000; object, manufacture toilet articles, medical supplies; incorporators, Charles W. Rassow, M. T. Bacon, E. D. Bransfield.

Manufacturers' Company of America; capital, \$2,500; manufacture chemicals and remedies; Samuel A. Ettelson, Charles Weinfeld, Charles M. Barickman, incorporators.

International Association of Medical and Surgical Specialists, Chicago; professional advancement; incorporators, Calvin E. Covey, William Bourque and T. J. Ricard.

The Drexel Sanitarium, Chicago; capital, \$15,000; sanitarium, hospital work; Angelina M. Piazza, Henry B. Beeson, Carrie E. Graves, incorporators.

Sophia Aid Society of Washington Park hospital, Chicago; maintain free hospital beds; incorporators, O. Myhrman, Mina Anderson, Ida Olson.

NEWS NOTES.

Drs. L. C. Taylor and W. O. Langdon addressed the graduates of the Springfield Hospital Training School at the commencement held early in June. Six nurses were graduated.

Mrs. Eniza Frances Allen, wife of Dr. C. A. Allen of Virden, died June 7, of tuberculosis.

Frank Parsons Norbury, A. M., M. D., Editor of the Medical Fortnightly and medical superintendent of Maplewood Sanatorium, Jacksonville, Illinois, has accepted the chair of nervous and mental diseases, Keokuk Medical College.

Dr. Alice Stockham, 71 years old and Dr. Edward Beckwith, both of Chicago, were convicted recently of sending improper literature through the mails and were fined by Judge Bethea. Dr. Stockham was fined \$250.00 and one-third of the court costs and Beckwith \$500.00 and two-thirds of the court costs.

Dr. Ben. Reitman of 39th street and Cottage Grove avenue, recently had a thrilling experience in south-eastern France where he was walking on his way to Geneva. He was arrested as an anarchist, cast into prison and compelled to walk handcuffed forty miles before securing his liberty.

Dr. Reitman is well known in Chicago and through the State by reason of his having acted as a solicitor for the Journal of the American Medical Association some time ago.

ILLINOIS.

By W. T. Williams, M. D., Nebo, Ill.

From the people comes the cry,

Illinois, Illinois,

That King Alcohol must die,

Illinois, Illinois,

Oh, the anguish of the soul,

Loud and long the echoes roll,

And is heard from pole to pole,

Illinois.

What a blessing in our land,

Illinois, Illinois,

A benediction in our hand,

Illinois, Illinois,

When we rise in all our might,

In our work and prayers delight,

Out of darkness into light

Illinois.

Proud our state and nation too,

Illinois, Illinois,

With her flag of spotless blue,

Illinois, Illinois,

What of the night, who can say,

When we learn the better way,

And we vote just like we pray,

Illinois.

What a joyful time 'twill be,

Illinois, Illinois,

When our grand old state is free,

Illinois, Illinois,

When the dawning light appears,

When are vanished all our fears,

And are dried the women's tears,

Illinois.

'Tis the home we're now defending,

Illinois, Illinois,

And the battle is unbending,

Illinois, Illinois,

Woman's honor's now at stake,

Man's worst enemy to break,

Virtue follows in the wake,

Illinois.

Opportunity's now offering,

Illinois, Illinois,

Hear the cry of all the suffering,

Illinois, Illinois,

Men of thought be up and doing,

Mindful of the seed you're sowing,

Joy and peace you now are wooing,

Illinois.

Cystogen Aperient

GRANULAR EFFERESCENT SALT - CYSTOGEN

*An Anti-Uric Aperient and Urinary Antiseptic,
Eliminant and Prophylactic.*

**CYSTOGEN APERIENT WILL PREVENT INVOLVEMENT OF THE
KIDNEYS DURING THE COURSE OF INFECTIOUS DISEASES.**

An effective prophylactic in all febrile conditions, particularly scarlet fever, diphtheria, typhoid and other infectious diseases accompanied by high temperature and retarding the activity of the kidneys. Stimulates excretion of urine and flushes the entire urinary tract with a dilute solution of formaldehyd, thus rendering the urine sterile. Inhibits the growth of pyogenic bacteria and prevents decomposition of urine.

Prevents formation of uric acid accumulations and dissolves concretions in their incipency.

CYSTOGEN APERIENT is particularly valuable in Gout, Rheumatism, Calculus, Cystitis, Gonorrhœa and all Infectious Fevers.

Dose: A heaping teaspoonful in water three or four times daily.

*Samples and literature will be furnished on
request of physicians.*

CYSTOGEN CHEMICAL CO., St. Louis, U. S. A.

INFANT FEEDING IN SUMMER

The problem of substitute infant feeding becomes more complicated with the advent of the hot months. The milk supply of most communities is bad enough at all times, but in summer it presents grave dangers to the bottle-fed infant. Most peddled milk contains an enormously high bacterial content and the use of preservatives is by no means uncommon. Even pasteurization of milk, once it is tainted, does not eliminate danger.

The rational solution lies in the use of

HIGHLAND BRAND EVAPORATED CREAM

Simply the purest of cow's milk produced on model dairy farms—reaching the factory in the shortest time after leaving the cow, and handled with most scrupulous cleanliness—and sterilized and evaporated by a process which makes it easy of digestion and gives **absolute protection against all germs and other impurities.** It is the simplest, most uniform and satisfactory substitute food.

Trial quantity to physicians.

**HELVETIA MILK CONDENSING CO.
HIGHLAND, ILL.**



The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

INTESTINAL ULCERATION.

By A. F. Foye, M. D., Washington, D. C.

The patient in this case was a woman 82 years old. Her trouble was of several years' standing, during which time she had been unsuccessfully treated for various forms of gastrointestinal affections. I found that there was a great deal of pain, at times very acute, in the region of the duodenum and a careful examination of the daily stools showed a number of black crusts, which, with other symptoms, indicated an ulcer. As there was much acid fermentation and gastric disturbance, I thought the use of Glyco-Thymoline would be effective and began with tablespoonful doses every three hours. The results were wonderful. Not only were the gastric conditions corrected speedily, but the pain and soreness was lessened in the duodenal tract and the quantity of black crusts in the stools greatly lessened. I had the patient under the care of a trained nurse and told her to keep up the Glyco-Thymoline treatment and closely watch the stools and report to me daily. This was done and the improvement steadily continued until, after some three weeks' treatment, there was no pain nor soreness and no trace of the crusts. Her appetite had returned and she could digest and assimilate her food without any distress, something she had been unable to do for a number of years. After another week or so I found that every indication pointed to a cure and discontinued the treatment. That was over a year ago. She has not had the slightest return of the bad symptoms and her general condition is remarkably good for a woman of her age. She could not have lived six months had her trouble continued. As it is, she apparently has a number of years of life before her and as Glyco-Thymoline alone was used, the inference that it saved her life is not over strong. I cannot say too much in its praise.

THE ANTISEPTIC TREATMENT OF THE SUMMER DIARRHEAS OF INFANTS.

Of the various agents that have been suggested for the disinfection of the intestinal tract, Acetozone is by far the most promising. It has been shown by Novy and Freer, of the University of Michigan, that Acetozone, even in weak solu-

tions, destroys bacillus pyocyaneus, bacillus coli, bacillus typhosus, bacillus diphtheriae, vibrio cholerae, staphylococcus pyogenes aureus, and streptococcus, in less than one minute. These writers say that "While the strong solution kills everything almost instantly, the weaker solution (1:3000) destroys the vegetating germs, as a rule, within one minute." At the same time solutions of 1 to 1000 strength are given internally without the least harmful effect. The good results accruing from the use of this remedy in the summer complaints of young children are early and unmistakable; the discoloration and putridity of the stools disappear; the diarrhea is checked; the temperature falls; pain and inflammation subside; the vomiting is controlled; and the condition of anguish and irritability is consequently greatly dispelled.

In dealing with this class of cases the following make up the round of treatment: (a) withdrawal of milk and the substitution of thin broths, albumen and cereal waters, or other liquid feedings; (b) immediate evacuation of the stomach and intestines by stomach washing and intestinal flushing with Acetozone solution (1:5000 or stronger); (c) the sustaining of the patient's vitality; (d) administration of an internal antiseptic—Acetozone (1:3000 to 1:1000); (e) the observance of hygienic conditions. In giving the drug, the solution usually administered to adults (15 grains to the quart) should be diluted with one-half its quantity of water and flavored with lemon or orange juice. It should be given in teaspoonful doses at frequent intervals—every twenty or thirty minutes in the beginning, lengthening the intervals as the case progresses.

Colonic irrigation is a useful procedure in cholera infantum. Acetozone (1:5000) solution is unexcelled for this purpose. The same solution may be used for lavage, which is recommended by many leading authorities. In washing out the stomach the irrigating fluid invariably should be lukewarm and is best introduced prior to the feedings. Its continuance must be based on the character of the washings.

Acetozone is marketed in ounce, half-ounce and quarter-ounce vials, and in boxes containing six vials of 15 grains each. An ounce is sufficient to make eight gallons of aqueous solution.

The Illinois Medical Journal.

The Official Organ of The Illinois State Medical Society.

Vol. VIII. No. 2.
25c per copy

Springfield, Ill., August, 1905.

SUBSCRIPTION
\$2.00 A YEAR.

THE PRESENT STATUS OF SERUM THERAPY.*

BY EZRA READ LARNED, M. D., CHICAGO, ILL.

By the term "Serum Therapy" is meant the treatment of certain morbid conditions by the use of the blood of animals which have been subjected to gradually increasing doses of the toxins (until tolerance to enormous doses is established), elaborated in artificial media by the germ recognized as the specific etiologic factor in the production of the disease under treatment.

Classification of Sera as Used in Medicine.

—This is an arbitrary classification on my part. Other arrangements may be made by those who desire to do so in accordance with their special purposes, but in this paper I propose to consider in two broad groups many of the sera proposed for the treatment of disease in man. These two groups I called "Curative Sera" and "Diagnostic Sera." Under the head "Curative Sera," I include all those which have been proposed as remedial agents. Under the head "Diagnostic Sera," I refer to sera which have been used for the purpose of identifying the morbid condition under consideration.

I have also classified sera as to their efficacy, making three broad divisions. First, those whose efficacy has been demonstrated beyond reasonable doubt, such as:

Antidiphtheritic.

Antitetanic.

Antiplague.

Antistreptococcic.

Serum for Exophthalmic Goitre.

Second—Those whose value appears merely or possibly, but in support of which there is not yet sufficient evidence to warrant their inclusion in Class 1, such as:

Serum for Hay Fever.

Tuberculin.

Antityphoid.

Antitubercle.

Antirabic.

Antivenene.

Third—Those sera whose efficiency is questioned by the majority of observers or whose value has been demonstrated to be entirely negative, such as:

Antipneumococcic Sera.

Antiscarlatinal Sera.

Antidysenteric Sera.

Antivarioloid Sera.

Antitoxin for Cerebro-Spinal Meningitis.

Serum for Rheumatism.

Serum for Syphilis.

Serum for Anthrax.

Cancer Serum.

Leprolin.

Workers in Sera.—It would be a difficult matter indeed to classify the workers in sera, since directly or indirectly, bacteriologists the world over (almost always medical men) are laboring with vast expenditures of time and money and strength to improve the sera already known to be of value, to overcome the difficulties attendant upon the elaboration of, and to produce sera of definite value in those diseases which seem to be amenable to this method of treatment and to find the specific etiologic factor and its antidote in those diseases which we have reason to believe are due to some specific germ and which we have hopes of curing by the use of serum.

Elaboration of Sera.—I presume that the methods employed in the elaboration of the various sera are familiar to you all, and that, therefore, it would be useless to enter into any elaborate discussion on this point, but for the benefit of those who may not be thoroughly familiar with the subject, I may briefly say that in the manufacture of antidiphtheritic, antitubercle, antistreptococcic, antiplague,

*Read at the 56th Annual Meeting, Rock Island, May 17, 1905.

antipneumococcic, antiscarlatinal, antidysenteric, and other sera, the methods usually employed are as follows:

From typical human cases of the specific disease cultures are taken—in the case of diphtheria from the nose and throat; in streptococcal infection from throat, nose, heart's blood, pus, etc.; in scarlet fever cases from the heart's blood and from the throat; in tuberculosis from the sputum; in plague from the buboes and the blood; in typhoid from the blood; in pneumonia from the sputum, and the scrapings of blood from the lung, and so on—with which suitable artificial culture media are inoculated.

By well known bacteriologic methods, pure cultures are isolated, which are in many cases run through lower animals, sometimes for several generations, to increase their virulence, and the pure cultures are introduced into flasks of bouillon.

As a general rule these flasks are stored for two or three weeks in special incubators, where the temperature is maintained by automatic devices at 100° F. The flasks are then removed, the contents critically examined to determine that the cultures have not been contaminated by the presence of other germs. The bouillon is then filtered through paper and finally through porcelain under high pressure. This filtrate is then thereafter known as toxin, and is tested upon guinea pigs to determine the minimum lethal dose for a pig of standard weight (250 grammes).

After the M.L.D. has been determined, the treatment of the animal selected for the elaboration of the serum is begun. The horse has been used commonly for this purpose in the better known serums, although a great many other lower animals have been called upon to render this service. The initial dose of the toxin is necessarily very small, though the quantities subsequently administered are gradually increased until the animal can withstand enormous doses, amounting in some cases to 500 cc. of virulent toxin, or many thousand times the M.L.D. for a standard guinea pig.

When this point has been reached, the animals are considered immune to the disease, owing to the presence in the blood of large amounts of antitoxin. Nowadays, owing to improved methods, it is considered more desirable to increase the virulence of the toxin of the disease rather than the quantity of the fluid injected. The blood is then drawn from the animal, collected in suitable vessels and stored under aseptic conditions until the clot separates. When the separation of serum and clot is complete, the former is syphoned off into sterile flasks and a preservative is added. The serum is now filtered to remove all bits of fibrin or the turbidity which sometimes results from the addition of the preservative.

The serum is examined bacteriologically to determine its absolute freedom from live germs and the animal from which it was drawn is kept under close observation, from motives of precaution, to establish the fact that the animal was perfectly healthy at the time the serum was obtained.

The antitoxic value of each cubic centimeter, or the number of units, so-called, are now determined and the process is complete. We are indebted to Ehrlich, of Frankfort, for our knowledge of how to determine the value of antidiphtheritic serum as expressed in units. So far, our knowledge has not progressed sufficiently to enable us to apply the same standard to other sera. I take it for granted that you are all thoroughly familiar with the exact meaning of the word unit as applied to sera. If not, I shall be glad to explain later.

The above processes are followed out in the elaboration of nearly all the sera mentioned in this paper. Special technique is, however, employed in many cases and various modifications and elaborations of the steps mentioned are made by different workers.

CURATIVE SERA.

Class I.—Sera of Demonstrated Efficacy. Antidiphtheritic Serum. Antidiphtheritic serum justly holds the highest place in our opinion. The magnificent record of this remedial agent is known throughout the

world. The death rate of diphtheria, formerly one of the most dreaded diseases, is now reduced to a point where the disease no longer possesses its former terror. I almost venture to say that every case of diphtheria seen early enough, and treated with sufficient quantities of potent serum, may be saved.

Time was when supplies of serum were difficult to obtain and of problematic value and many cases were unavoidably allowed to go down to death because of the inability of the attending physician to obtain for love or money any of the life-saving serum. At the present time antidiphtheritic serum of absolutely definite value may be obtained at nearly every pharmacy in the land. The easy diagnosis of diphtheria, the availability of serum supplies and the immense amount of data collected as to its positive value, give rise to the thought that any physician who allows a case of diphtheria to die without using *adequate* doses of the serum is guilty of criminal negligence and unworthy of his place in our profession.

Antistreptococcic Serum. The antistreptococcic serum prepared according to the method of Aronson, (which has been followed with slight modifications in the production of our own antistreptococcic serum) has possibly given the most satisfactory experimental and clinical results. This is prepared by injecting into horses a single strain of streptococcus whose virulence has been increased by repeated passage through rabbits. Such a serum, in doses of .0005 cc., has been found to protect mice against 10 M.L.D.'s of a similar culture of streptococcus. It proved to possess an inhibiting action upon streptococci in vitro.

A polyvalent serum was prepared by injecting into animals streptococci isolated from various sources, puerperal fever, scarlet fever, erysipelas, tonsillitis, etc. Tavel (22) prepared a serum in this manner, while Moser (23) uses several strains of streptococci, all, however, originating from cases of scarlatina.

Menzer (24) prepared an antistreptococcic serum for the treatment of articular rheuma-

tism from cocci isolated from the throat (see antirheumatic serum).

It is impossible to resist the conclusion that on the whole the use of antistreptococcic sera has been disappointing. This was at first attributed to the existence of several strains of streptococci which react differently to a given serum. If this were true, polyvalent sera prepared with several strains of streptococci from different sources should be more generally applicable, producing beneficial results in a greater number of cases. This, however, does not occur, as the monovalent sera have been as satisfactory in every way as the polyvalent. What is probably responsible for the large number of cases in which the serum is used with indifferent results is the fact that many cases of sepsis are complicated by organisms other than streptococci, upon which it can have no effect. In fact, in many cases of sepsis in which the serum has been used, the streptococcus is not at all responsible for the trouble, but the infection is due to other pyogenic bacteria, e. g., staphylococcus pyogenes. There is no doubt that in a certain proportion of cases, at all events, of pure streptococcic infection, the serum has acted most beneficially.

Success resulting from the use of this serum has been cited by many authors in puerperal infection, erysipelas, chronic articular rheumatism, urticaria and scarlet fever. Menzer has contributed an interesting (4) paper on the detailed use of antistreptococcic serum and its application to human medication.

Antistreptococcic sera are somewhat experimental as yet, but on the whole very encouraging for true streptococcic infection.

Antitetanic Sera.—In a recent conversation, Prof. Ehrlich, director of the Imperial Institute for Serum Therapy, of Frankfort, told the writer that the use of antitetanic serum in tetanus was just as specific, just as certain of results, as the use of antidiphtheritic serum in diphtheria, the only difficulty being that medical practitioners are prone to use too small doses and to give them too infrequently. He strongly advocates the use

of very large initial doses (30 cc. or more), followed by *frequent* subsequent doses of 10 or 20 cc. until the desired result is obtained.

The method of administration is subject to some difference of opinion; subcutaneous, intravenous, intraneural, intracerebral, intraspinal by lumbar puncture, all have their advocates.

The use of antitetanic serum as a prophylactic is now regarded as almost obligatory on the part of the attending physician. Wounds in the feet, hands, or, in fact, any part of the body, which have come in contact with street dirt, garden earth, soil from the proximity of stables or gardens, or made with nails or attendant upon the use of fire-arms, as in 4th of July festivities, should always be treated as though infected with tetanus bacilli. The use of dried antitetanic serum in the form of a dusting powder is advocated by McFarland, *Journal A. M. A.*, July 4, 1903. By Letulle, *Press Medicale*, No. 57. By Alexander, *Medical and Surgical Monitor*, Sept. 15, 1904. Other observers have dressed these cases as ordinarily done, but have supplemented the local treatment by subcutaneous injections of antitetanic serum. Laboratory experiments have shown that this treatment is efficacious in 90 per cent of cases of intentionally produced tetanus in laboratory animals.

Antiplague Serum. Yersin, Calmette and Borell (29) have taken the initiative in the production of a plague immune serum. Yersin's serum, also called the Paris serum, is prepared by injecting into horses, first, bacilli killed at 70° C., later, highly virulent bacilli, and lastly, their toxins.

Lustig's serum is made by injecting into horses the nucleo-proteids which he isolated from cultures of the plague bacillus. An antiplague serum is also manufactured under the directions of Tavel (30) in the Berne Institute, prepared in practically the same manner as Yersin's serum. Markl (31) also prepared a purely antitoxic serum, which although not of sufficient strength to give any definite results, seems to enhance the value

of the Yersin serum when used in combination with it.

A careful review of the entire subject and a consideration of the numerous clinical reports upon the use of antiplague sera, leads to the following conclusions:

1. Yersin's (Paris) serum is of value as a remedy for bubonic plague. It should be given early in the case and in large quantities. The serum acts much more energetically when given intravenously than by the subcutaneous route. The dose may be from 60 to 150 cc. or even 300 cc.

2. The claims of Lustig's serum as a remedy are less well established than those of Yersin's serum; but some evidence has been adduced in its favor.

3. Yersin's serum may also be used prophylactically, but the protection gained is transitory, so that repeated injections are necessary in the presence of an epidemic.

Antiplague serum is of positive value when given in large doses.

DuPratt (50) reports the result of the treatment of forty-five cases of bubonic plague with the Roux-Yersin serum. The results obtained were very encouraging, the mortality falling to 13 per cent. Experiments show that the best results were obtained when the initial dosage was approximately 300 cc. The injections were all subcutaneous, difficulty being experienced with Calmette's intravenous injection. One frequent effect of the serum injections was general arthrodial pain, which was temporary, however.

Serum for Exophthalmic Goitre. The first work along the lines of producing a serum for exophthalmic goitre was done by Ballet and Enriquez (42). About the same time Lanz (43) prepared a serum from thyroidectomized animals, which he claims to have used with good success in this troublesome affection. Merck & Co. prepared a serum of this kind according to the formula of P. J. Moebius (44). Several reports have appeared, especially in the German periodicals, upon the therapeutic activity of this preparation. Quite favorable results seem to have been obtained, consisting of marked improvement in the pulse rate, tremor and nervous

symptoms characteristic of the disease. A gain in weight, increased appetite and decrease in the size of the tumor were almost invariably noted. The milk of thyroidectomized animals has also been used with good results.

Thyroidectin, a preparation from the whole blood of thyroidectomized animals, has given very promising results in the hands of several eminent neurologists in the United States. Lepine prepared a strictly antithyroid serum by injecting into animals increasing amounts of thyroid gland substance, for which he claims beneficial results upon Grave's disease.

Exophthalmic goitre has been experimentally treated with tablets of dessicated milk from thyroidectomized goats and cows; the liquid milk taken from these animals after they were subjected to the operation of thyroidectomy; tablets of dessicated blood from thyroidectomized animals, the serum from thyroidectomized animals and finally the powdered, dried whole blood.

The clinical course of exophthalmic goitre is so varied that one is justified in withholding an opinion as to the results of any particular method of treatment until very considerable numbers of cases have been followed for a long time. However, when clinicians of the reputation of Moebius and Von Leyden go on record in favor of a method, which is furthermore founded on a scientific principle, it may be thought to be of no inconsiderable value. Von Leyden (51) has recently published an interesting clinical lecture on the topic.

The literature is fairly full of authorities for the statement that the treatment of exophthalmic goitre by the blood of thyroidectomized animals is followed by improvement in the symptoms of tachycardia, exophthalmos, Graefe's symptom, struma, physical depression, insomnia and headache, and a gradual disappearance of the whole of the morbid symptoms. The treatment must be continued for long periods, possibly years, before a total cessation of symptoms could be considered permanent. The apparent results are so striking as to encourage further use of the serum.

CLASS II. SERUM WHOSE VALUE REMAINS TO BE PROVED, THOUGH POSSIBLE.

ANTIVENINE.

Calmette (25) and Fraser (26) have prepared sera against snake poison. That of Calmette is now found upon the market under the name of Antivenine. In order to understand the action of these sera it is necessary to know that poisons from different snakes are not of the same composition. Independently of the less important agglutinins and haemolysins, we encounter two entirely distinct bodies, namely neurotoxin and haemorrhagin. The virus of the rattlesnakes (*Crotalus*) contains little neurotoxin and acts principally in virtue of the large amount of haemorrhagin which it contains. Since Calmette's serum is prepared by means of the poison of the hooded snake (*cobra*), which is rich in neurotoxin and poor in haemorrhagin, it does not protect against the bite of the rattlesnake; vice versa, an anticrotalus serum will not protect against the cobra poison.

From the fact that it is often impossible to ascertain the particular species of snake by which a person has been bitten, it would seem as though a polyvalent serum prepared from the venom of all the more common species would be of greater applicability. Little work seems to have been done and fuller investigation is necessary with regard to the manufacture of a serum of this kind. Antivenine is experimental but very encouraging.

Anticrotalus Serum. Shortly after Behring demonstrated the possibility of producing an antitoxin antagonistic to diphtheria toxin and Kitasato did the same for tetanus toxin and Ehrlich for certain vegetable alkaloids, Bertrand and Calmette studied serpent's venom and showed that when animals were injected with progressively increasing doses of cobra venom an anti-body antagonistic to the venom appeared in the blood. This was named antivenine. Martin, working in Australia, showed that the Calmette antivenine was useless in antagonizing the venom of Australian snakes and McFarland in our own country has found its action of little avail against American snakes. Flexner and Noguchi, of the Serum Institute of Copen-

hagen, have taken up the subject and have been able to produce a high degree of immunity against rattlesnake venom and to produce in the blood of immunized animals a considerable amount of what they call anticrotalis serum, antagonistic not only against the toxoids but against the toxins and consequently, against the venom itself. It seems possible that they have given us the method of preparing an antitoxic serum by which we may counteract the action of rattlesnake venom.

Hay Fever Serum. A. Lubbert has published (52) directions for the manufacture and use of pollantin, the antitoxic serum recommended against hay fever. A toxalbumen is isolated from the pollen of grasses liable to set up a catarrh, and this then injected into horses in gradually increasing doses. After two or three weeks a high degree of immunity is established and the blood is withdrawn and allowed to express its serum. The subcutaneous use of pollantin is not recommended, since the immunity thus conferred is only partial and of short duration; it is much better to apply the serum directly to the eyes, nose or pharynx. Very obstinate cases should carry a small bottle with dropper with them every day, and resort to an instillation as soon as the first irritation is noticed. If the attack has already set in, the pollantin should be used every ten minutes and the patient instructed to stay indoors.

The effect of "Dunbar's Pollantin" differs considerably in different cases. In some the remedy unaccountably fails. The duration of the relief afforded is not long and repeated instillations of the antitoxin are required. Subcutaneous injections are not advisable, as the local oedema produced is considerable and the amount of protection gained is uncertain.

Tuberculin. The preparation of tuberculin and its diagnostic value in cattle is too well known to require any further reference. The same product has been used for diagnostic purposes in man, in doses of 1 to 10 mg., but has never become very popular.

As a method of producing active immunity in man, progressively increasing injections

of tuberculin have been at one time highly praised, again rejected and are lately being more carefully investigated.

Koch's (36) method of gradually increasing the dose is now used in all instances, the injections never being repeated until the reaction from the previous injection has entirely disappeared. The quantities administered have been considerably decreased since this method of immunization first came in vogue. Originally Koch gave 1 mg., rapidly increasing the dose up to 1 cc. In two or three weeks he attained 500 times the initial dose. High fever and strong reactions and other favorable results were produced by these large doses. At the present time much smaller initial doses are used, 1-10 to 1-20 mg., increased very gradually, 1-10 to 1-20 mg. at a time, and never repeated while the slightest local or systemic disturbance remains from the previous injection. Goetsch (37), Petruschky (38), Krause (39) and others claim to have obtained satisfactory results from this method. Tuberculin must still be regarded as an experimental product for therapeutic purposes.

Antitubercle Serum. Harricourt (32) and Richet first attempted the use of serum derived from unsusceptible animals possessing a more or less well developed natural immunity against tuberculosis. The experiments conducted along these lines gave little promise of ultimate success, and their failure led to artificial immunization of animals against the tubercle bacillus and its toxins.

Maragliano's serum.—Of all antitubercle sera that of Maragliano (33) has probably attracted the greatest attention. It seems to have the most rational scientific foundation. Maragliano worked upon the supposition that the toxin of tuberculosis is not a single chemical substance, and attempted to separate it into its component elements. In the culture fluids he found a "toxalbumin" precipitated by heating to 100° F. and producing in healthy as well as tubercular animals hypothermia and sweats, followed by collapse if given in sufficient doses. From the bodies of the bacilli he obtained an aqueous extract having the same effect upon man and animals as glycerin extracts. Be-

sides these he isolated several other less important principles which were not used in the preparation of his serum. The "toxalbumen" and "aqueous extract" in the proportion of one of the former to three of the latter, were used for the production of the serum. This serum possesses the property of neutralizing fatal doses of tuberculin. It has been used in Italy to a large extent. Maragliano claims some wonderful results from his serum. Most other observers who have tried it have failed to observe any marked improvement. Lately several prominent investigators in his own country have denied that the serum exerts any influence upon the disease.

Fisch (34) prepared an antitubercle serum by injecting horses with progressively increasing doses of Koch's T R, which animal experiments seemed to prove possessed considerable protective properties. This serum has been used considerably in America.

Marmorek (35) produced tuberculin by growing tubercle bacilli in a mixture of leucotoxic calf serum and glycerin-liver bouillon. The filtrate from these cultures was injected into horses, and after some eight months treatment produced an antitoxic serum. This serum showed some protective power in rabbits but very little in guinea pigs. Marmorek claims favorable results from its use in cases of tuberculosis which are not too far advanced. He does not give the details of his toxin production, nor are his results confirmed by other observers.

The serum diagnosis of tuberculosis has not been given an extended trial in America. Discussion of the subject was recently renewed by Arloing and Courmont at the Congress of Arts and Sciences in St. Louis. These people have found that serum from tubercular patients and fluids from tubercular inflammatory lesions, especially the serum from tubercular pleurisy and tubercular peritonitis, have the power to agglutinate tubercle bacilli. In the case of non-tubercular affections, no agglutination takes place. The authors claim that they have been able to control their clinical findings by autopsies in a large number of cases. The test has been considered by a number of observers both in

France and Germany, and though there are some who deny its value, it seems worthy of a more extended trial.

Antirabic Serum. Babes (27) and Lepp were the first to point out the fact that serum of animals immunized against rabies possesses the property of conferring immunity upon other animals. They succeeded in protecting dogs by means of such a serum against subdural inoculations of street virus and natural infection by bites of rabid animals. Rabbits could not be completely protected, although a much longer period of incubation occurred in the cases when the immune serum was given.

Tizzoni and Centonni (28) confirmed the work of the above observers and produced a highly immune serum, $1\frac{1}{2}$ drops of which protected rabbits against the fatal dose for a 2 kg. rabbit.

In 1890 Babes used simultaneous (serum and virus) inoculations with fairly good success. Kraus and his co-workers, Keller, Clairmont and Maresch, have added valuable contributions upon a rational method of standardizing such sera.

The serum treatment does not seem to have been actually tried on man. It would, however, seem advisable to have recourse to it in cases which are only seen some time after the injury has taken place, and in which there is, therefore, reason to fear that there will not be time enough to produce immunity by Pasteur's method.

Serum for Rheumatism. Menzer has prepared a serum by injecting into horses streptococci isolated from the throat, which he has used in the treatment of acute and chronic articular rheumatism. If the statistics which he gives upon its therapeutic activity and the tables which he draws up in his article (53) in the *Munchener Medicinische Wochenschrift*, Aug. 16th, 1904, are not made up of selected cases and are reliable, it would certainly seem as though his serum possessed considerable value. Some reports from other observers, however, are by no means as optimistic, claiming that no specific action can be observed following the administration of the serum and stating that they would only use the serum as a last re-

sort and would expect very little from its use. It should be regarded as purely experimental.

Poynton and Shaw reported to the Pathologic Society of London their recent investigation to establish the specific nature of rheumatism. They hold that rheumatic fever is a definite, distinct clinical entity. They believe that the streptococcus aureus and the diplococcus rheumaticus can be easily distinguished. Their work tends to encourage those who believe in the eventuality of a serum treatment for rheumatic fever.

CLASS III. SERA WHOSE EFFICACY IS NIL AT PRESENT.

Antipneumonic Serum. An enormous amount of work has been done by a number of investigators with the object of producing a serum against pneumonia. G. and F. Klemperer (6), Mosny (7) and Foa (8) believed that an antitoxin could be demonstrated in the serum of animals highly immunized against the pneumococcus. Other experimenters, followers of Metchnikoff, ascribe an important role to the process of phagocytosis in the production of immunity against diplococcus pneumoniae.

Isaëff (9) and Mennes (10) claimed that they observed under the microscope that the leucocytes, which behaved rather indifferently toward pneumococci in normal serum, attacked these organisms very energetically in the presence of a pneumonia immune serum. Pane (11) thinks that upon contact with immune sera the leucocytes acquire the property of giving off substances which confer immunity against the pneumococcus upon the organism. Bonome (12) and Emmerich (13) demonstrated that any protective power which the serum of immunized animals possesses is due entirely to an increase in the natural bactericidal properties of the patient's serum.

By injecting into horses a particularly virulent strain of pneumococcus an immune serum was produced at our laboratories. This product, when placed in the hands of careful observers for clinical trial, failed to come up to expectations, no influence upon the disease could be attributed to it.

The results obtained up to the present with all antipneumococcic sera are disappointing. Some effects seem to be noted in animals. In man, none of the sera at present obtainable seems to exert any very beneficial influence upon the disease. It is possible that the immune bodies formed in the lower animals do not find suitable complements in man. There may be different strains of pneumococci which react differently to anti-bodies. More might be expected from an antitoxic than a bactericidal serum, as pneumonia presents symptoms of profound intoxication; but as it has not been possible to obtain potent toxins from the diplococcus pneumoniae, no such serum is at present available, nor is there any immediate prospect of its preparation. Antipneumococcic serum is most decidedly experimental.

Roemer's pneumococcic serum has been used in the treatment of corneal ulcers. It is possible, according to Roemer, so to immunize rabbits and monkeys with respect to pneumococci that the inoculation of highly virulent organisms into the corneae of these animals fails to give rise to inflammation. He likewise succeeded in inhibiting the development of a corneal ulcer which had already begun to form in the eye of an animal. In the case of man, however, considerable clinical experience is needed before the merits of the serum treatment can be discussed.

It has been noticed that there is a peculiar coincident nephritis in many cases treated with serum. This has been explained by some observers on the ground that it is the protest of the kidney to the overwork necessitated by the introduction into the body of such large quantities of foreign albuminous material.

In the presence of the writer, at the meeting of the American Medical Association in Saratoga, in 1902, Osler declared that the condition of pneumonia therapeutica was a disgrace to the medical profession, that a mortality rate of 40 per cent was simply fearful, and yet medical men could look upon it without the quiver of an eye-lash. Since that time, however, the condition has changed very slightly if at all. Tremendous labor and enormous expenditures of money have

as yet produced nothing in the way of a curative serum for the treatment of pneumonia which possesses anything but a negative value. The writer has personally been engaged in work along this line for nearly three years and has yet to learn of the production of an antipneumococcic serum in support of whose efficiency any absolutely incontrovertible evidence can be brought. The outlook is rather discouraging.

Antidysenteric Serum. The first practical application of an antidysenteric serum for the treatment of dysentery was made by Shiga (1). He used a serum from horses which had been highly immunized against this bacillus. A few milligrams of this serum protected guinea pigs against five times the M.L.D. of dysentery bacilli. By using this serum he claims to have reduced the mortality from the disease 50 per cent. Kruse (2) prepared a similar serum and noted a reduction in mortality of from 11 to 8 per cent. Rosenthal (3) treated 157 cases with Gabritchewski's serum (4), with a death rate of 4.5 per cent as against a mortality of 10 to 11 per cent in the cases treated without serum. These cannot be considered as unbiased reports as subsequent experience has failed to corroborate their statement. Our own experience with a serum of this kind (which we put out for some time) was anything but encouraging. Judging from reports received, it exerted no perceptible influence upon the severity or the duration of the disease.

At the recent meeting of the American Pediatric Society, in Detroit, in 1904, it seemed to be the consensus of opinion that the use of antidysenteric serum was very disappointing indeed. It is true that certain sera have been elaborated, the use of which has been followed by very gratifying results in a certain number of cases. It is also true, however, and at the same time unfortunate, that other series of cases treated with the same serum apparently showed no effect from its administration. The best results have been obtained from the use of a polyvalent serum made by immunizing horses with the toxins of several strains of the bacillus. Of course, it is understood that we

refer to bacillary dysentery and not to the amoebic variety, of which there are doubtless a great many more cases in this country than is generally supposed. Antidysenteric serum most decidedly is experimental.

Antiscarlatinal Serum. A strictly antiscarlatinal serum was first prepared by Moser (5). He made use of several streptococci, all originating from cases of scarlet fever, with which he immunized horses. This serum was tested clinically by Escherich. He reports that the mortality was reduced by means of it to 9 per cent, whereas in other hospitals at the same time, where the serum was not used, the death rate amounted to 14 per cent. Very few authorities still consider the streptococcus as the etiological factor in scarlet fever. The influence of an antistreptococcic serum must then be merely of an indirect nature, placing the system in a more favorable condition to cope with the main infection by counteracting the secondary infection. Strictly antiscarlatinal sera do not seem to exert a more favorable influence upon the disease than immune sera obtained by immunization with streptococci from sources other than scarlet fever. It is still highly experimental.

I am well aware of the fact that supplies of antipneumococcic, antiscarlatinal and antidysenteric sera can be purchased in the market from manufacturers who have no hesitancy about recommending their use, but an impartial survey of all the evidence in behalf of their efficacy causes me to apply the Scotch verdict of "Not Proven."

Antityphoid Serum. No definite results have as yet been obtained by any specific serum therapy of typhoid fever. Chantemesse and Widal (14) first produced a serum from guinea pigs by injecting cultures of bacillus typhosus. Their results were negative. Klemperer and Levy (15) shortly after had no better success. Hammerschlag (16) tried the injection of serum from patients recovered from the disease, without being able to show that it possessed any special protective properties.

Wasserman (17) explains the lack of success in the use of antityphoid sera by the fact that they are bactericidal sera, which, al-

though they may be rich in immune bodies, do not meet in the human organism a sufficient amount of activating complement. Pfeiffer and Kolle (18) went even further and showed that all bactericidal sera, under certain circumstances, are in a position to cause rapid lytic action upon the bacilli present in the system, with consequent liberation of the intracellular toxins and aggravation of the disease.

The only method which gave any considerable promise of success seemed to be to isolate the intracellular toxins of the bacilli, and by means of these to produce an antitoxic serum. Brieger, Kitasato, Wasserman (19), Kolle and Pfeiffer were unable to obtain these toxins in any appreciable quantities.

Chantemesse (20), by growing typhoid bacilli in a maceration of spleen substance, to which had been added defibrinated human blood, claims to have obtained a typhoid toxin, 1 cc. of which will kill an 80 gm. guinea pig. He made a serum by injecting this toxin into horses. Out of 507 cases treated with this serum he reports a mortality as low as 6 per cent.

Antityphoid sera were prepared in our laboratory by injecting progressively increasing doses of several strains of typhoid bacilli. A serum was obtained which agglutinated the respective bacilli used for inoculation, depending upon the particular bacillus agglutinated, in dilutions of from 20,000 to 4,000,000. This remarkably powerful agglutinating serum showed no protective properties in guinea pigs receiving a M.L.D. of typhoid culture. Clinical results obtained with the same serum were very unsatisfactory, so that for the present time our work along this line has been discontinued.

The following conclusions may be drawn:

1. The bactericidal sera on the market at the present time, called antityphoid, are generally unsatisfactory in their effects, indeed it is doubtful whether they can be said to have any influence at all upon the course of the disease.

2. Good results are reported with Chantemesse's antitoxic serum, but there is not yet

sufficient material on which to base an opinion.

Serum for Cerebro-Spinal Fever. The bulk of work which has been done upon immunization against the diplococcus meningitidis we owe to Lepierre (48). He produced a serum in small animals (rabbits and guinea pigs) by the injection of whole cultures, which possessed both antitoxic and bactericidal properties. The animals did not bear this method of immunization very satisfactorily, several of them developing cachexia and succumbing during the course of the treatment. Immunization was also attempted with cultures killed by heating to 66-68° and also with chloroform killed cultures. The antitoxic, preventative and curative properties of sera thus prepared are not considerable, as shown by animal experiments. There is no record of such a serum being used on man.

From this we see that the experiments made up to the present time upon the production of immunity against a serum for cerebro-spinal meningitis are not only few in number but very unsatisfactory, and allow of no definite conclusion.

In the daily press, Dr. Darlington, of the New York State Board of Health, is quoted as saying that a commission formed to investigate the epidemic of cerebro-spinal meningitis, raging in the city, has decided, after exhaustive investigation and experimentation, that the so-called serum treatment of this disease is practically worthless.

Antivarioloid Serum. A lack of definite data upon the etiology of small-pox makes it impossible to adopt any specific serum therapy. Cows used for the production of vaccine have been bled some two weeks after recovery, and their serum has been shown to possess some antivarioloid properties. These, however, were weak and no marked influence upon the course of variola has been observed after the use of such sera.

Serum for Cancer. Charcot (46) prepared a cancer serum finely dividing the tissue of a primary carcinoma of the breast and injecting an emulsion into goats, sheep and horses. The serum collected aseptically was injected in doses of 20 to 30 cc. (90 cc.

weekly) for several months into patients afflicted with inoperable cancers. The blood serum of patients thus treated showed, after four or five injections, haemolytic properties toward the red corpuscles of animals whose serum was used for injection.

Adamkiewicz (47) reports upon a number of cases of cancer which were favorably influenced by the administration of cancerin, as prepared by himself. A number of these cases he considers completely cured. His results, however, have not been confirmed by other observers, and no very marked influence upon the disease can be attributed to any of these preparations.

The only remedy which can be said to have established any pretense to efficacy in the treatment of malignant growths is Coley's fluid (*Erysipelas* and *Prodigiousus Toxins*). This has been found of some value, especially in the case of sarcomata.

Until it is proved that cancer is an infective disease, serum treatment of the usual kind is inapplicable to this condition. Doyen inoculated horses with his micrococcus neoformans, which he considers the etiological factor in the production of cancer. The serum thus obtained was tried clinically with what he considers favorable results. These results, however, are not convincing. It is permissible to hope that it may be possible to produce a cytolytic serum which may act on the cells of the growth without affecting the normal cells of the tissues. A satisfactory serum of this nature is yet to be prepared. Cancer sera are most decidedly experimental.

Leprolin. By cultivation upon special media which he prepared, Rost (45) has succeeded in obtaining from the bacillus leprae, a concentrated toxin which he named Leprolin. This he used in the same manner as Koch used his tuberculin for the cure of consumption. Gradually increasing quantities of this toxin are injected into patients. A reactionary fever is observed after such injections, which showed rise to 100° F. If the reactionary fever is not marked, larger doses are given and improvement of the symptoms has always followed. This remedy will require much more extended clinical

investigation before definite conclusions can be drawn relative to its value.

Serum for Syphilis. Justin DeLisle studied the etiology of syphilis and claims that the disease is due to a bacillus always present in the blood of syphilitics, although not visible by microscopic methods until it has been cultivated in collodion sacs. After the preliminary cultivation in collodion sacs they are readily visible as short slender rods and easily grown upon the ordinary culture media. With cultures of this bacillus he made attempts to immunize horses. He claims that a serum thus obtained shows marked curative properties in luetic cases. His results have not been confirmed by other observers.

With a pseudo-diphtheria bacillus isolated from the blood of cases of secondary syphilis, which he considers the etiological factor of the disease, Paulsen prepared an antisymphilitic serum. A report was published by him upon the clinical value of this serum which he used in 14 cases of syphilis. The etiological relation to syphilis of the particular organism used by this investigator is not recognized by other observers. The therapeutic results obtained by means of the serum are very questionable. One case was "cured in three weeks." It is, however, not shown what Paulsen considers a cure (nothing is said as to the length of time these cases were under observation), probably his cure merely amounted to a disappearance of the secondary eruption. In other cases they were obliged, "notwithstanding the favorable influence exerted by the serum, to have recourse to mercury, as the healing process was somewhat slow." Thus, notwithstanding the use of the serum, mercury seems to have been the only effective weapon against the disease.

Anthrax Serum. In 1893 and later in 1899, Kitt (40) undertook a series of experiments which showed that an immune serum can be prepared from sheep, goats, horses and cattle when these animals are treated by intravenous or subcutaneous inoculations of virus (toxic infectious tissue juices). After a few injections the blood of

animals so treated rapidly acquires a large quantity of immune bodies.

In 1900 Arloing, and in 1901 Leclainche-Vallee (41) carried on similar experiments and prepared a horse and goat serum, 1-5 cc., of which protected guinea pigs against undoubtedly fatal doses of anthrax. The immunity conferred by such sera appeared as soon as twelve hours after injection but lasts only about eight days. The curative properties of such sera are not very marked, as is shown by Arloing. A serum injection given less than nine hours after injection was able to protect the animals, whereas if 12 hours had intervened between the inoculations with virus and the serum injection, no beneficial effect was observed, even when the latter was used in large doses.

From the above it appears that a satisfactory anthrax serum has not as yet been produced. The only manner in which they have given any measures of success is in simultaneous (serum and virus) prophylactic inoculations. In this method a preliminary injection of serum is given which allows of using subsequently a much stronger virus for vaccination.

Treatment of Yellow Fever with Antio-phidic Serum. Rodrigues' statements in regard to the efficacy of the treatment of yellow fever with a serum made to combat the bites of poisonous snakes of Brazil, have not been confirmed by the experiences of others. Carlos Seidl and Marchoux and Simond gave the method a trial, but met with negative results. The first to suggest serum treatment of yellow fever was Professor Miguel Couto, of Rio, who treated several yellow fever patients with serum from convalescents. His communication on the subject was published in the *Brazil Medical Journal* of April 22d, 1892. Rodrigues reports rapid recovery of 24 yellow fever patients, with but one exception, under treatment with anticrotalic and antithroptic sera.

Antimalarial Serum. Ford, of the U. S. Army, has been making a strenuous attempt to provide a serum for tertian malaria. This investigator has been working for some time and has evolved certain results of more than ordinary interest. As yet, however, little

has been discovered in the way of immunizing or curative sera for disease of protozoan origin. (Medical Record, Dec. 24, 1904.) 4219 Calumet avenue.

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Discussion on Dr. Larned's Paper.

Dr. L. E. Ryan, Galesburg: Mr. President and Gentlemen: I was very much interested in this paper, and there is little that can be said in addition. I merely wish to ask Dr. Larned whether he knows of any case where real benefit accrued from the use of anti-tuberculosis serum in cases of mixed infection in tuberculosis.

Dr. E. J. Brown, Decatur. I am very much interested in the use of tuberculin, both for diagnostic and therapeutic purposes. Unfortunately this whole matter is still in an experimental stage, and many men have discarded the use of tuberculin entirely although others, like Trudeau and von Ruck, are using it regularly. I used it for diagnostic purposes recently in the case of a young woman who was suffering severely from ascites and general oedema, for which she had been tapped eight times; diagnosis had been made of syphilitic cirrhosis of the liver.

I began by giving $\frac{1}{2}$ milligram of tuberculin, and continued it up to 4 milligrams before I got a reaction, and it was a very pronounced one. Much to my surprise the patient improved wonderfully, and has returned to her work. The edema has disappeared almost entirely, and the ascites has lessened considerably. My diagnosis of tuberculous peritonitis was confirmed. I believe that tuberculin should always be used in these cases.

Some German physicians were giving tuberculin for the purpose of confirming a diagnosis of lupus, and they found, after one or two injections, that the lupus was cured. Dock, of Ann Arbor, Mich., did the same thing. In making a diagnosis of lupus by means of the tuberculin test, he found that the lupus disappeared.

Working along the same line, I gave tuberculin in three cases of lupus, two of which had been treated by the X-Ray. One small patch on the face disappeared completely under the tuberculin treatment. I begin by giving $\frac{1}{2}$ milligram of tuberculin, and if I do not get a reaction, I increase the dose. The rule is to give $\frac{1}{2}$ or $\frac{1}{4}$ of a milligram every six or seven days.

In another case, one of lupus erythematosus, I gave 125 X-Ray treatments. The lupus disappeared completely, but in a few months the patches returned on different parts of the face. I now have this patient under the tuberculin treatment, and she is improving steadily.

In regard to diphtheria antitoxin, Dr. Larned said that it should be given in every case, even before the diagnosis is made. There is nothing so difficult as to make a diagnosis of diphtheria, in the first twenty-four hours. Is it a staphylococcus sore throat, tonsillitis, scarlet fever angina or diphtheria. I make a culture of every throat case, but never wait for the diagnosis. It takes from sixteen to twenty hours to get a result. I also make a smear from the throat; but I always feel safer in suspicious cases after I have given three or four thousand units of antitoxin, even if the case proves to be one of tonsillitis.

Dr. Ethan A. Gray, Chicago. I have been using tuberculin for several years in the treatment of pulmonary tuberculosis. Many cases have shown very excellent results, but often there is a mixed infection which hampers the action of the tuberculin. The rule is never to give an increasing dose if there be a rise of temperature. The difficulty is in keeping down the fever. Some cases continue for days and days with a high temperature. However, after the temperature has been reduced, there is a considerable tendency to improvement under tuberculin.

In view of the distinct improvement after the mixed infection is cleared up, I have some doubt as to the efficiency of tuberculin as a constant therapeutic measure, and some also as to its diagnostic value. It undoubtedly has an important place in our armamentarium.

Dr. Larned's query as to the value of anti-streptococcic serum for other bacteria than the streptococcus, might answer his query as to pollantin. It would seem to me, judging from my knowledge of the matter, that pollantin would be of real benefit if it were made from the poisons of many plants. In the case of an attack of hay fever due to a poison not included in the pollantin, it certainly would be useless. The same is true of sera, especially antistreptococcus serum; the serum to be effective must be polyvalent.

Dr. J. H. Bacon, Cleveland, C_o. I have seen much tuberculin used for diagnostic purposes, and it certainly is a great help in diagnosis.

The literature on the Pathology and Treatment of Exophthalmic Goitre is growing very rapidly. I had not been aware that the treatment of exophthalmic goitre with the milk and serum from thyroidectomized animals gave such good results as just given. There have been so many cases showing one or two of the symptoms of exophthalmic goitre and a tumor of the neck in the region of Thyroid gland diagnosed exophthalmic goitre in the past that we must be careful in interpreting results of treatment. I have seen several such cases with wrong diagnosis of late. It is because of these wrong diagnosis that the whole subject is cloudy. Ex-

ophthalmic goitre is a definite pathological entity. The serum treatment seems to me, should prove a good field for scientific investigation. If it is successful, it will have to be taken regularly or Thyroid extract in degeneration of the thyroid.

Dr. W. C. Abbott, Chicago. I have listened with a great deal of interest to this paper on serum therapy, and shall read the complete elaboration in the Journal with added interest from having heard the outline. I believe we need to know a great deal more about serum therapy so as to know better when not to use sera. We are in great danger from running off after fads.

I am a strong believer in serum therapy, just so far as it is proven to be a good thing and an adjunct to our treatment of various affections, but we must understand that the patient is the battle-ground of the difficulty, and we must not be led astray. I am sure that the essayist does not desire us to be led astray in our belief that the various sera proposed are intended, in the main, to be specifics for the treatment of definite conditions. They are specifics and they are not specifics.

Some two or three sera have been demonstrated to be specifics because they have been isolated and elaborated; but the essayist has brought out the fact, which must not be lost sight of that these are merely prominent symptoms, a part of the great group of symptoms which constitute the condition against which we are contending.

In that lies, in the main, the absolute futility of any sort of serum against that group of symptoms which we denominate as pneumonia. The essayist alarms us by saying that we are losing 40 per cent. of our pneumonia cases. Perhaps we are in the atmosphere where serum therapy is rampant, and where serum therapy, or some other "pathy" is looked upon as necessarily specific, but the general practitioner throughout this broad land, treating symptoms as they arise, infective and inflammatory manifestations as they present themselves to him, is not losing 40 per cent. of his cases, nor half of 40 per cent.

Dr. Frank Goodell, Effingham. The essayist certainly has laid low any man by saying that people who do not believe as he does are criminals; that persons who do not use anti-diphtheritic serums are criminals. I have treated 127 cases of diphtheria without serum and did not lose a single patient. Perhaps I am criminal, but my patients do not think so.

It seems to me that a man ought to use that form of treatment which cures his cases, regardless of the opinion of others, even if he be in the minority. If a man uses a particular treatment and it seems successful in his hands, it is not a sure thing that it ought to prove successful if used by other physicians in the treatment of the same disease.

Liberality is the foundation of intelligence, and when one man thinks that another is a criminal because he does not think as he does, that man has not enough liberality to come up to my idea.

In the Willard Parker hospital, one of the greatest in the United States, the physicians in charge, who administered antitoxin, refused to give it to their own family at home when they saw the hospital patients die, and the nurses refused it also when they contracted the disease. I know of a few cases where it seemed to me that the antitoxin treatment was a very bad one. I know that little tombstones are scattered around as the result of that treatment. In the immediate country where I live, those who have used the antidiphtheria serum have had the worst success.

Some men follow fads, and they are always looking for something new. They are led astray from the solid old landmarks. If a man is satisfied with his treatment, he is not looking for something new all the time. It is the man with the poorest success who wants something better. I have no objection to any man using this serum if he is successful with it. I am successful without it.

I asked a very learned and scientific gentleman connected with one of the colleges in St. Louis, what his opinion was of diphtheria antitoxin. He said he had given it frequently and had observed its effects when given by others, and it seemed to him that it neither killed nor cured; that it is absolutely neutral.

My treatment of diphtheria does not differ from that followed by many others. I have nothing which cures all my cases, but I cure so many cases that I am satisfied. I cure as many cases as any one would expect to cure. I saw a statement made by a physician that during an epidemic of diphtheria forty years ago in the city of St. Louis, they treated these cases with sulphur and sage, and they cured more cases with that treatment than have been cured by diphtheria antitoxin since its introduction. I also give iron. I keep the fever down and the strength up. I use sulphur, potash, veratrum viride gelsemium, hydrastis, etc., and my patients get well, use sprays and gargles, washes and applications, and treat cases constitutionally and locally.

Dr. Burkhardt, Watson. This is quite an interesting subject. I believe I occupy a middle ground. I have never been a strong advocate of antitoxin, although I believe in a physician using such methods as have given him the best success in his practice. I cannot call to mind of ever having lost a single case of diphtheria in the twelve years I have been engaged in the practice of medicine, in which I was called early. The few cases which I have lost were those which I saw late—too late, after the system was saturated with the poison.

My treatment is not the use of antitoxin, although I have used it in cases which I was called too late where the disease had existed for several days, and the involvement of the throat was considerable; but all the cases in which I have used it died. Whether it was due to the fact that I gave antitoxin, or that I saw the case too late, I am unable to say; but I believe death was due to the septic infection which existed, on account of the lateness of treatment and not to the antitoxin as I consider it perfectly harmless if properly used.

My treatment is the antiseptic treatment, both internally and locally. I use peroxid of hydrogen as a spray, with an atomizer or a swab. I follow that with a solution of the chlorate of potash and iron internally, or iron and mercury. When any other symptoms arise, I treat them as indications may demand.

Dr. Clarence L. Wheaton, Chicago. Although the antistreptococcic serum has proven somewhat of a failure in the treatment of puerperal infection, according to the reports of the American Gynecologic Society, diphtheria antitoxin is a specific in the treatment of diphtheria, and it is unbecoming our dignity at this late day to advance any arguments to the contrary. We might as well argue that iodid of potassium and mercury are not specifics in syphilis. We have at our command the reports as to the efficacy of the antitoxin treatment of diphtheria from the great medical centers of New York, Chicago, Europe, and elsewhere, and the men who have made these reports are scientists.

When in our practice we are called to a child choking to death, administer a few cubic centimeters of serum and see the membrane slough off inside of twenty-four hours, the cyanosis clear up and the dyspnea disappear, we cannot do otherwise than believe in the efficacy of the serum. If the child dies, it is because of the toxemia incident to the severe infection. There is no need to discuss the antitoxin treatment of diphtheria. We all subscribe to its efficacy.

Dr. J. W. Pettit, Ottawa: I am sorry to note that in the discussion of Dr. Larned's excellent paper some of his critics give evidence of having accepted the teachings of certain trade journals which are not looked upon with favor by educated and progressive medical men. I fear they have not sufficient professional pride to subscribe for first class medical journals, but prefer to read those which are furnished gratis and are full of such erroneous ideas as we have just been compelled to listen to. I regard it as little less than an outrage that an educated body of physicians, representative of the medical profession of this great State, should be compelled to sit here and listen to such crude and unscientific statements. I do not feel that it is proper to allow this opportunity to pass without administering a rebuke to such effrontery and ignorance. For my part I prefer to follow the leadership of such men as Dr. Larned, who are doing such excellent work in this field. Dr. Larned's paper is simply a report on the present status of serum therapy. He does not claim that every serum is a specific. He presents the results of his investigation with that modesty characteristic of the truly scientific investigator. We ought not to discard the opinions of men who devote their lives to the investigation of these matters and accept the idly expressed opinions of men who have never done any scientific work in their lives.

Dr. Larned, closing the discussion: I have absolutely nothing to say in reply to the remarks made by Dr. Goodell.

As regards the antiseptic treatment of diphtheria, it simply shows that the men who use

that method of treating diphtheria do not know what diphtheria is. How is it possible to cure diphtheria by spraying antiseptics into the throat when it is the toxins floating in the blood stream that are causing all the trouble? How can a throat spray counteract the toxins circulating in the blood current?

With regard to the pneumonia death-rate, I will go on record as saying that the death-rate is 40 per cent. Dr. Osler made that statement, and was very vehement in his argument. As far as I am able to learn from reports, the average death-rate everywhere is less than that. I know that many men do not have such a death-rate, but, nevertheless, pneumonia has a death-rate which is simply fearful. I am confident that the average death-rate in the cities and country is over thirty per cent. The reports of the Chicago Department of Health show that it is alarmingly great.

With reference to pneumococcus serum as a therapeutic measure, I must confess that many reports have been made that are extremely encouraging and apt to lead a man to make enthusiastic statements, but, in my paper, I have deliberately refrained from touching on anything which would allow me to be accused of enthusiasm. I am a conservative enthusiast. I could tell you about pneumococcus serum until you would become enthusiastic and say that you would never use anything else in the treatment of pneumonia. Yet under the same circumstances, with the same nurse and the same interne, but without the use of the serum, after having treated a large number of cases, you would ascertain that the results are about the same. In other words, the serum did not prove any more effective than any methods of treatment.

With regard to the use of tuberculin as a therapeutic measure, a great many cases have been collected which show that the results are sufficiently encouraging to warrant further study and research along this line. We ought not to jump to conclusions, and say, when we have six or eight or ten or even twenty cases, that a thing is not good. Wait until you have several hundred cases, and several hundred control cases, before you venture an opinion.

As to exophthalmic goiter, those cases that have been treated with the serum, milk, or whole blood have shown a very satisfactory diminution in the severity of the symptoms, and some cases have improved so markedly as almost to warrant the verdict of a symptomatic cure.

Antidiphtheritic serum has served as a basis on which to judge all other sera are advocated, elaborated, experimented with and judged, but until we have as large an experience to base conclusions on in the case of other sera as we have in the case of antidiphtheritic serum, we should not say that they are either useful or

The use of antistreptococcus serum in mixed infection in tuberculosis has been fairly well answered, and I know Dr. Gray will take up that phase of the question in his paper.

TYPHOID FEVER.*

BY G. G. CRAIG, M. D., ROCK ISLAND.

When assigned the duty of making a report to this meeting, I was requested to choose some practical everyday subject. Although much has been written upon typhoid fever, the physician who has gone through an epidemic without seeing an immense amount of ignorance, especially regarding its cause, is indeed very fortunate. A disease that each year takes off a larger percentage of the flower of our youth than any other, certainly deserves our most serious consideration.

Typhoid fever is caused by a germ, known as the Eberth bacillus, which is transmitted from the bowel of one to the mouth of another. It is conducted from the mouth to the small intestines, where it finds a favorite breeding place in Peyer's patches. In a large majority of cases this is accomplished either directly or indirectly through the medium of drinking water, and in epidemics of typhoid fever the public water supply is almost invariably the cause. The disease is absolutely preventable, and although the time will probably never come when it will be completely eradicated, still, by strict attention to well known principles of sanitary science, particularly in regard to water supplies, epidemics can be made very rare occurrences.

In June, 1900, it was noticed that a bad odor emanated from the clean water basin at our reservoir. It was also noticed that the same odor, but scarcely perceptible, except at night, came from the slough, that is the part of the Mississippi river between Rock Island and the Illinois shore. When the river is low there is not much current in the slough, and at that time the river was very low. Also, the U. S. government was doing some work in the upper part of the slough, and it was coffer-dammed, making the water practically stagnant. The clean water basin was emptied and thoroughly cleaned. While this was going on, the commissioner of health had his suspicions aroused regarding the intake pipe, which projects nearly a half mile through the slough, and into the channel of the Mississippi river. He was having the

water analyzed regularly and at short intervals, with the result that it was invariably reported bad. Examination showed that the intake pipe was full of crevices, and the well into which the intake pipe emptied and from which it was pumped through the city, was full of holes, the cement having nearly all scaled off, leaving nothing but a rough stone wall, and about twenty feet of saw-mill refuse between it and the mouth of one of the main sewers of the city. This sewer conducted the sewage from St. Anthony's Hospital. The usual warning, "Boil the water," was freely given, but people as a rule don't scare at unseen danger. In September the epidemic was upon us. It continued about four months, during which time we had about five hundred cases, and about fifty deaths.

In regard to the treatment, or rather the management of typhoid fever, I would say that, in my opinion there is more opportunity for the exercise of good judgment on the part of the physician than any other disease that we, in this section of the country, have to contend. There is no known specific, and yet with careful handling I believe we can pilot through to a successful termination, nearly every uncomplicated case.

Most of the cases in this epidemic were severe from the onset. They generally started with chills and fever, with a temperature of 104 or 105 degrees, and some over 106 degrees. If it were an adult of ordinary strength, I generally gave on the first visit about five grains of calomel and twenty of quinine, to be given before bed-time, whether the call was made at noon or 6 p. m. I wanted the patient to sleep with that medicine in the system.

On the next call I found the temperature generally lower, but if over 103 degrees I would give about two grains of calomel and twenty-four grains of quinine during the day. I certainly think that mercury acts as an antiseptic in typhoid fever, and neutralizes some of the poison that is in the blood. It stimulates the action of the liver and kidneys, and I have invariably found it, when given in that way, to change a wild, almost

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

malignant case into one easy to control, and relieved of its virulent character. In the meantime, I use water freely, both internally and externally. If the temperature is still inclined to keep up, I frequently use an ice bag over the region of Peyer's glands, with two or three layers of Turkish toweling between it and the skin. I don't keep up the mercury, for I think its continued use is depressing.

Digestion is particularly weak in typhoid fever, and after the disease is relieved of its acute and dangerous symptoms, I give muriatic acid and pepsin in a pleasant form, which I find very agreeable to the patient.

I use baths freely all through the disease. It has been demonstrated beyond question that the Brand system gives the best results. I have found one serious objection to it, however, and that is the difficulty of handling the patients. It is no easy matter to pick up a man weighing 160 pounds, put him in a bath tub, and back into his bed again. There is the possibility of dropping him, and it frightens them. To obviate this difficulty, I have had an apparatus made, a sort of windlass, with which two persons can raise a patient up as easily as they would handle a forty pound child. I submit photographs of this apparatus. I never use it in private practice, unless I have the privilege of selecting the attendant.

Dr. Baruch, to whom more credit is due than to any other in the United States, for intelligent information on the use of water in the treatment of diseases, has repeatedly called attention to the fact that the cold water as used by Brand is not on the theory of freezing the fever out of the patient, a fallacy that will not down, but it is used as a stimulant to the nervous system.

Judgment should be exercised in the use of the Brand bath. A patient with a feeble pulse, 150 beats to the minute, should not be put into a bath of 60 degrees. The fire of life is low in such a case, and you must use kindling wood or it will go out. In such a case handle gently. Have the bath 90 degrees or 95 degrees. Use mild friction, although it may be rapid. Watch the pulse, and if it increases in volume and decreases

in frequency, the next may be given a little more vigorously.

About twenty years ago I commenced flushing the bowels as a part of my routine treatment. I have that done with water at a temperature of 90 degrees to 95 degrees, and about 3 o'clock in the afternoon. It nearly always lowers the temperature, and frequently the patient will drop into a pleasant sleep after it. I certainly think that anything that will remove a mass of offensive, acrid matter, a day before nature would do it, must be beneficial.

Occasionally during the course of the disease the temperature becomes alarmingly high. I then repeat the quinine, about 24 grains, with one grain of calomel, to be given before bed-time, and next day resume the mild treatment. If the tongue is red and bowels tympanitic, I use turpentine. In case of hemorrhage, acetate of lead and opium and tannic acid. I keep the mouth clean, and if the nostrils are inflamed, I use a soothing ointment. All these little things are cared for. The patient is more comfortable, and nature allowed to concentrate its efforts to combat the main disease.

In regard to diet, I consider milk our sheet anchor. If possible, I get morning milk for the day, and evening milk for the night, bottled as soon as possible after leaving the cow. I sometimes give white of egg in water, some prepared foods and malted milk, but I rely on cow's milk. Any treatment must be modified to suit special cases. When nature seems to show exhaustion, I try to keep it up with stimulants. I think pure whiskey is the best. I have thought sometimes that the alcohol in the whiskey had a tendency to neutralize the toxemia or poison of the disease.

I always demand a good nurse, and the faithful execution of every little detail. The physician has a right to demand that in a disease of such severity. We know it will linger at least three weeks, and possibly three months. The battle will be hard and long, but I believe with intelligent care, economy of strength, and watchfulness against surprises, that victory will generally be our reward.

We earnestly hope for the discovery of some serum, some specific by which humanity may be relieved of the terrors of this disease.

Discussion on Dr. Craig's Paper.

Dr. A. W. Baer, Chicago: I wish to make a suggestion in regard to Dr. Craig's treatment of flushing the bowels. It is something I have never known anybody to do as a regular thing, but I think the suggestion is a good one. I would add this to it, to use Labarague's solution one-half ounce to a quart of warm water will relieve the lower bowel of the irritating mass that is there. Two injections a day, and at the end of forty-eight hours you have partially formed stools because the antiseptic flushing of the bowels; is to assist nature in getting rid of that which is causing trouble a little sooner than she would do it unassisted.

Dr. Craig, closing the discussion: My experience has been that there are always some who are looking for something that diverts our attention from the real cause of the trouble. In regard to the trap that we in Rock Island fell into some time ago. We learned at the time that the stools of typhoid patients were not disinfected. Patients were taken into the hospital and their discharges thrown into the sewer and pumped into the city again, thus infecting others. It was really, what might be called an endless chain. The waterworks authorities seemed to want to hide it. But we finally succeeded in getting conditions righted and the sewer pipes have been fixed. It was full of crevices, and one pipe was broken. It was in that condition when it was put in. It had a large crack in it, and one end was closed up tight.

I have practiced flushing the bowels for about twenty years in the treatment of typhoid fever, and now nearly all the physicians in Rock Island use it. It almost invariably gives the patient a great deal of comfort that could not be secured in any other way, nor so soon.

SURGERY OF THE SPLEEN.*

BY M. L. HARRIS, M. D., CHICAGO.

During the time when the spleen was considered an essential organ to the human economy it was seldom molested by the surgeon, but when it was discovered that this organ could be dispensed with without any perceptible disadvantages to the body its removal became a more frequent occurrence. Like many other good things in surgery, the knowledge that the spleen could be successfully removed was brought about by accident.

Extensive lacerations of the abdominal wall permitted the spleen to prolapse through the wound. It became necessary to remove the organ. The patient recovered and con-

tinued to live without apparently being any the worse for the loss of the spleen.

From this beginning splenectomy gradually became an established operation and injuries to the organ became the most frequent ground for its performance.

Injuries of the spleen may be compound or subcutaneous. Bullet wounds and stabs furnish the most common illustrations of the former variety, while crushing injuries such as are produced by the eaving in of an embankment, the wheel of a wagon, a kick by a horse or a severe blow in the region of the spleen are the most frequent causes of the latter variety. Whether the injury be of the penetrating or of the subcutaneous kind, the chief danger to the patient lies in the internal hemorrhage which may take place.

The spleen is a very vascular organ in health and also much more so in some diseased conditions. It is also very fragile, easily torn and lacerated. Other things being equal, the larger the organ the more liable it is to be injured and quite a large percentage of subcutaneous injuries have occurred in pathologically enlarged spleens. The location of a penetrating wound will suggest the possibility of the spleen having been injured while in the subcutaneous variety the nature of the injury, together with the signs of an internal hemorrhage, make a diagnosis sufficiently probable to demand the immediate opening of the abdomen in order to determine accurately the damage done and to remedy the same so far as possible. When on opening the abdomen it is discovered that the source of the hemorrhage is a lacerated spleen three lines of treatment present themselves, namely, suture of the torn organ, tamponade and splenectomy. Owing to the difficulty of reaching the spleen for suturing purposes and the great friability of the splenic pulp, suturing as a means of controlling hemorrhage in a lacerated spleen has not proven itself a desirable method. In some cases demanding the most rapid action on the part of the surgeon or in extensive open wounds leading directly to the organ the tamponade may prove a useful means of

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

controlling the hemorrhage. The treatment however which has given the best results and which therefore should commend itself first to the surgeon's attention is splenectomy.

Except when the organ is pathologically enlarged or fixed by abnormal adhesions the operation is not a very difficult one. As lacerations of the spleen when untreated almost always result fatally, no time should be lost in resorting to direct surgical means to control the hemorrhage.

True neoplasms of the spleen are not common but when present require no arguments to convince the surgeon of the necessity of their early removal, consequently will not be further discussed here.

The most important advance which has been made during the past few years in the treatment of diseases of the spleen is the introduction of splenectomy for the relief of certain anemic states associated with or possibly dependent upon an enlargement of that organ. The condition is known as splenic anemia or sometimes primary splenomegaly.

Some of these cases run quite a rapid course, terminating fatally within a few months, while others may extend over a period of several years.

The chief clinical features are a secondary anemia, usually of a moderate degree only, seldom becoming severe, and a spleen which progressively enlarges, often attaining quite enormous proportions. In some cases, particularly in females, gastric disturbances, often associated with vomiting of blood, are among the early symptoms and suggest the possibility of gastric ulcer. The usual symptoms which accompany the anemic state are always present, and varying with the degree of anemia. A blood examination usually shows from 2.1-2 to 3 million reds with a minus color index. Abnormal reds are not often seen. There is usually a mild degree of leucopenia, the whites numbering sometimes as low as 2,500, but in some cases a leucocytosis has been found of from 20,000 to 25,000 without any material deviation from the normal in the relative proportion. The tumor which presents itself in the upper left side of the abdomen is recognized without much difficulty as the spleen. It may extend

to or beyond the midline and as low as the crest of the ilium. Some cases develop ascites early owing to an involvement of the liver with obstruction to the portal circulation.

Whether these cases should be placed in a class by themselves or are but a variety of one general condition is not at present definitely determined.

A distinct pigmentation, particularly of the abdomen, has been noted at times, reminding one very much of the pigmentation found after the prolonged application of hot poultices.

Those cases which run a rapid course grow progressively weaker and weaker and die. There seems to be little definitely known concerning the cause of this disease. It is known, however, that the blood cells undergo destruction or lysis in the spleen. It is therefore an enticing theory to suppose that associated with the enlargement of the spleen there is a hyper-hemolytic action with the production of the anemia. This theory receives some support in the fact that the removal of the spleen results in a cure of the patient.

Within a few hours after splenectomy there is a rapid increase in the number of red cells. There then occurs a decline for a few days, followed by a gradual return to almost the normal. The whites also show a great increase immediately after the operation, sometimes of several hundred per cent, followed by a gradual return to the normal.

Within a short time after splenectomy a remarkable change which is permanent takes place in the relative proportion of the whites.

This consists in a great increase in the percentage of eosinophiles and a slight increase in the percentage of large mononuclears at the expense of the polymorpho-nuclears.

Thus in one case which I have now followed for six years the eosinophiles have remained on an average at about 14 per cent, while before the operation they formed but 1.1-2 per cent, which is the normal proportion.

The granules are very large and take the stain in a beautiful manner. The cause or significance of this eosinophilia remains to be determined.

The recovery of this patient has been complete and her health is all that could be desired.

There have been between 25 and 30 of these patients operated on now with a recovery of 80 per cent. Considering the fact that medical treatment up to the present time has been of no avail this is certainly most encouraging.

Considering, then, the excellent results which have followed splenectomy in injuries of the spleen which without operation are practically always fatal and the large percentage of cures in certain cases of spleen anemia, likewise a heretofore incurable condition, it may be said that the spleen furnishes a very successful field for the work of the surgeon.

TUBEROUS SUB-CHORIAL HEMATOMATA OF THE DECIDUA.*

BY S. R. HOPKINS, M. D., SPRINGFIELD.

The two specimens here presented are the product of the same woman who is 32 years of age and is the subject of a deformity, resulting from an attack of "Polymyelitis Anterior Acuta" in childhood, as a result of which the entire right side of the body affected by the disease is much dwarfed. The pelvis shares in the general deformity to such a degree as to have caused me four years ago to be compelled to deliver her of a full term child by means of Caesarian Section. At the time of the operation acting upon her previous, urgent request, I crushed and ligated with strong silk both Fallopian tubes, thereby hoping to render her sterile.

The child thus delivered in December 24, 1901, nursed for 13 months. The menses were first re-established when the child was 10½ months old, viz: on November 12, 1902, to again reappear on December 12th and January 12th but failed to appear in February and other concomitant signs of pregnancy

appeared. An examination in the following June, no bleeding having occurred in the meantime, revealed the uterus to be three times its normal size and of rather soft consistency and in this condition it remained, without the slightest bleeding until August 30th, when the patient was seized with severe pelvic pains and some uterine hemorrhage and on September 2d nearly 8 months after the last menstruation, there was expelled from the uterus an oval mass measuring 5x3.25 centimeters, one side of which is of a rough ragged appearance, and covered with fresh blood, the remainder is represented by a smooth glistening surface which when incised gives exit to 8 c.c. of a clear yellowish fluid (the Liquor Amnii.) On everting this amniotic sac there is brought to view a surface completely covered by numerous purplish, irregularly round and smooth masses (Hematomata) varying in size from .2 to 1 centimeter in diameter. A number of collapsed folds of amnion are seen between them; by means of a primitive, hydropsical, umbilical cord is suspended from about the center, an embryo in a state of good preservation, 1.2 c. long. Microscopically, a section from point one shows from without inward that is from fetal to uterine side of the placenta, first the cuboidal cells of the amnion the connective tissue of amnion and chorion beneath which is Langhan's layer of cells, well preserved and covering a normal ribbon of syncytium; beneath this and represented macroscopically by the body of the hematoma is seen a large quantity of blood in which much fibrin is visible. Beneath this blood are seen many chorionic villi and intervillous spaces normally distributed and filled with blood elements. A few decidual islands can be made out. The villi for the most part are well preserved but in places their syncytium and Langhan's cells take the stain but faintly, and can with difficulty be recognized.

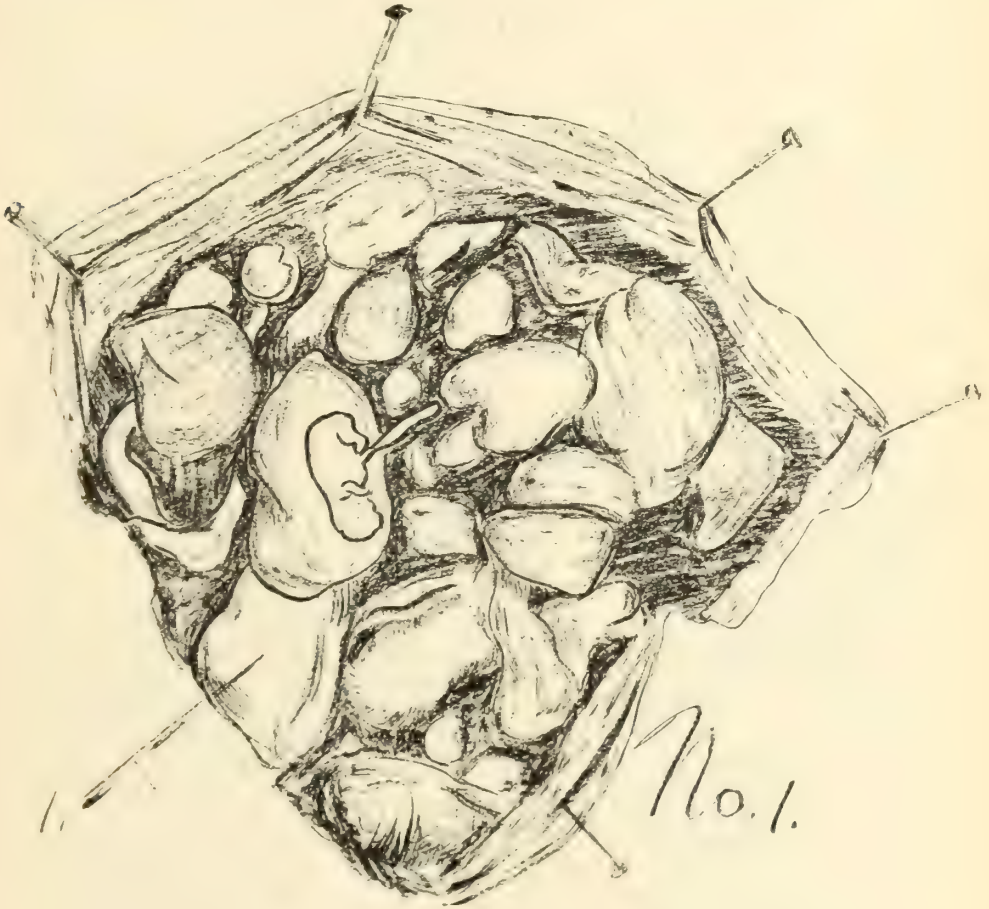
After the abortion just detailed, the patient menstruated regularly until May 1904, April 12th being date of last show. Following this there was no bleeding for two months and she exhibited the usual signs of pregnancy. Two months having elapsed a very slight

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

amount of uterine hemorrhage occurred, when an examination showed the uterus to be about three times its normal size. No more blood was seen until Nov. 1st when a profuse hemorrhage with severe pelvic pains set in and on the 8th (7 months after the last regular menstruation) I emptied the uterus of an oval mass measuring 5×3.5 centimeters in its greatest diameter, of rather firm con-

tions some collapsed folds of amnion are seen. Near one edge and concealed close to the base of one of these masses can be seen the embryo suspended by a minute hydropsical cord. The embryo itself being only of the size of a grain of wheat. The wall of this mole is one-half inch thick at its thickest part and the cut surface is of a reddish fleshy appearance.

Examination microscopically of specimens



sistency, three fourths of whose surface is rough and ragged covered with blood, the other one-fourth is represented by a jagged tear around whose edges remnants of a smooth membrane can be made out. On evert-ing the mass it is so friable as to break in several places. The everted surface is covered by 8 purplish, smooth elevations, (Hemato-mata) varying in size from that of a pea to that of a large hazel-nut, between the eleva-

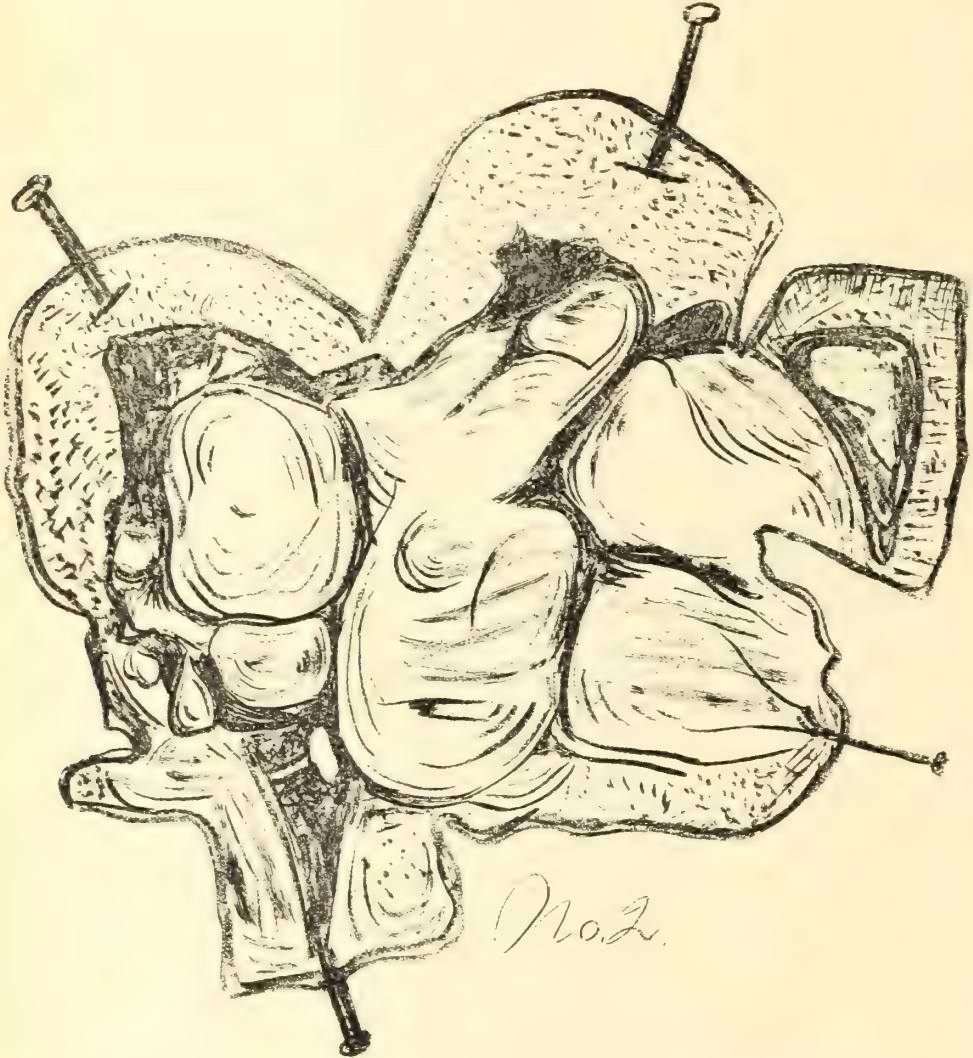
from four different parts of the ovum shows but three chor. villi which can be recognized as such and even in these the nuclei of the syncytium and Langhan's layer take the stain very faintly. The remainder of the speci-mens being represented by blood elements and the Chorion and Amnion covering the hema-tomata show no nuclear stain, all of which bespeaks a much higher grade of degenera-tion than was present in Sp. 1.

These blood moles, species of highly deg. ovi are but little discussed in the literature.

Breus has studied them quite exhaustively and designates them as Tuberous Sub-chorial hematomata of the decidua.

These abortions must occur very slowly so that the blood escaping between the decidua

the hem. producing these hematomata is the primary factor in the production of the moles or whether it is a secondary occurrence into the already collapsed folds of the amnion does not seem to be definitely settled. A number, including Walther, holding that the hem. is the primary factor while Breus be-

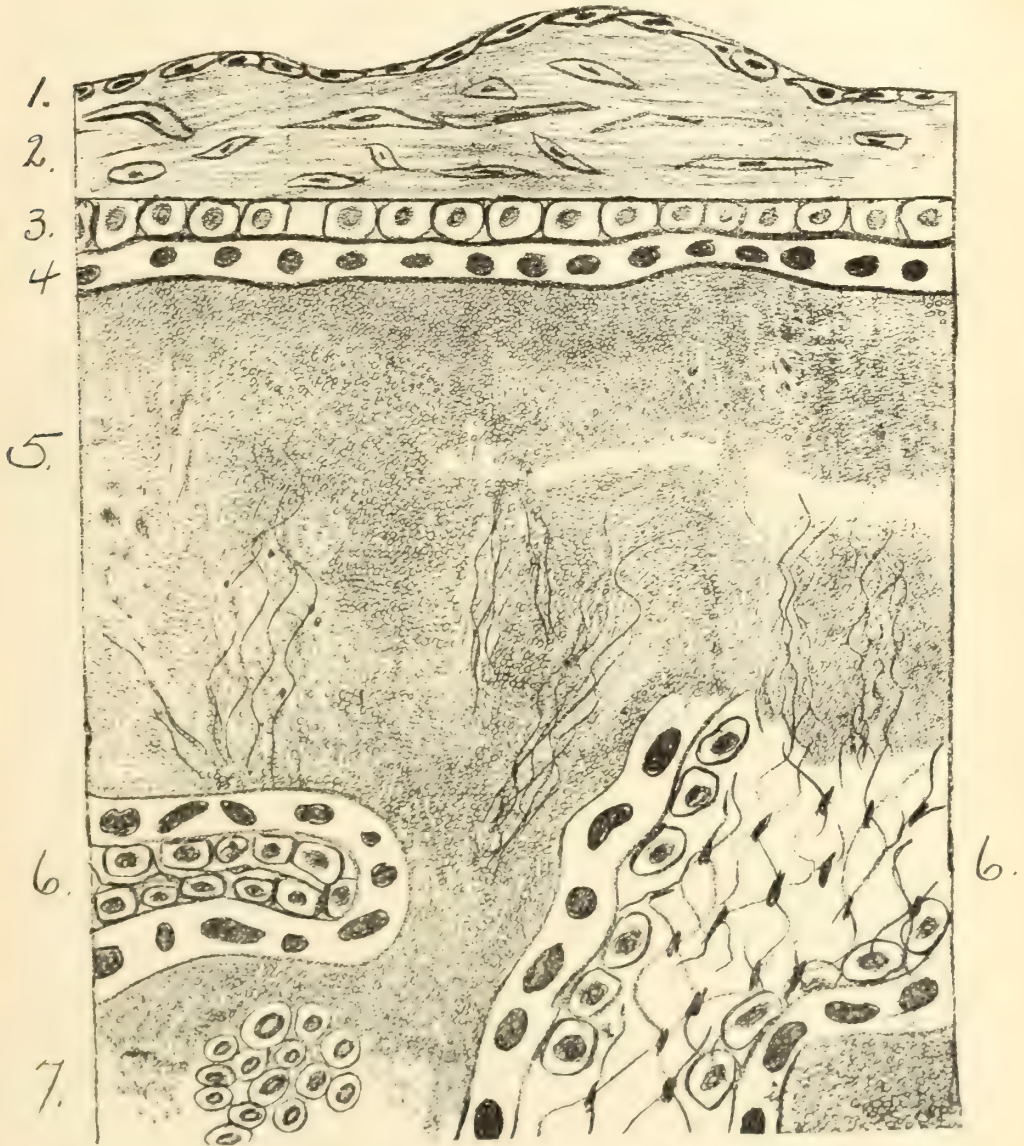


and the periphery of the ovum has time to coagulate, which separation so disturbs the nutrition of the embryo to cause its death, but not the death of the placenta itself, which latter may remain in vital contact with the uterine wall as long as eleven months as was the condition in one of Breus' cases. Whether

believes it to be secondary. The latter view seems most plausible because in many of these moles, (as in my two specimens) numerous empty folds of amnion are to be seen, besides the ones filled with blood and of these latter many seem not to be entirely filled but are covered by a loose wrinkled membrane.

Davidsohn in an article in the arch of Gyn. 1902 holds that the disproportion between the fetus and ovum is due to hydramnios after death of the former the amniotic fluid gradually absorbs, the redundant amnion is

The moles are usually readily recognized macroscopically; but when the fetus has undergone complete dissolution as not infrequently happens, and without the menstrual history, one might mistake them for Decidua Poly-



thrown into folds and hemorrhage occurs into these.

As to the origin of the hemorrhage the amnion and chorion being without blood vessels, we must look to the decidual vessels for its source.

posia or for Endometritis Cystica of Breus and Hegar, the microscope, however, clears every doubt.

Discussion.

Dr. Jacob Frank, of Chicago: Mr. President, I wish to congratulate Dr. Hopkins on his

successful case of Caesarean section. There is one point I would like to bring out in connection with his paper, and perhaps it would be well for me to demonstrate it on the blackboard, why his patient did not become sterile after the operation. There are cases on record similar to the one Dr. Hopkins spoke about, in which, after tying off the tube alone, the women became pregnant again. In the first operation to produce sterility the operators merely tied off the tubes, and then cases appeared in the literature that the women became pregnant again. Someone then suggested that the tube be tied off in two places and the tube cut through. Still cases appeared in literature after that operation of women having become pregnant. Again, it was suggested by someone to crush the tube and tie it. Even after this procedure cases appeared in the literature of the women becoming pregnant. There is only one way to produce sterility in a woman, and the operation I will describe, which is not my own, has not been followed by pregnancy, so far as I know. It can be performed in two ways; that is, by cutting out a wedge-shaped piece of the uterus, taking the entire tube away, and then bringing the edges together with catgut or silk ligature. Or the operation can be done in this way (demonstrating on blackboard): Let us suppose that this diagram represents a side to side view. Here we have the accompanying tube. A wedge-shaped piece is taken out of the uterus, and the entire tube removed, leaving a trough, and when the edges are brought together you will readily see that continuity is re-established.

Why is it, after crushing the tube and tying it off, or cutting between two ligatures, there are cases on record of women having become pregnant again? It is for this reason: If you tie off the tube, it cuts it through, and leaves the tube patulous, so that nature tries to reproduce itself. But by taking out a wedge-shaped piece of the uterus and leaving a trough, leaving the tissues in continuity, the uterine tissues are reestablished again by bringing the peritoneal surface together and over the opening where the tube should have been. Since adopting this method I have had no case where pregnancy has taken place, and if Dr. Hopkins should have another case, I would suggest that he try this method.

Dr. Hopkins (closing the discussion): At the time of doing the operation, I thought that crushing and ligating the tubes at the point of crushing would be sufficient to render the woman sterile. But I understand why it is necessary to resort to the method which Dr. Frank has described, if we hope to render a woman everlastingly sterile. It would be in connection with the moles I have described; but considering the fact that this woman had had two abortions before a Caesarean section was done, neither one of which was a mole, and the fact that she had two abortions after the Caesarean section, both of which were moles, it would be interesting to know whether the Caesarean section so disturbed the circulation as to be responsible for this abnormal ovum.

SOME PHASES OF DISORDERED METABOLISM IN NEPHRITIS.

BY RALPH W. WEBSTER, M. D., PH. D.,
CHICAGO.

In selecting the title of this paper, I do so advisedly, inasmuch as we all agree, I believe, that true nephritis is, invariably, preceded by marked disturbances of the normal metabolic processes of the body. It is, indeed, a very difficult, and even impossible, task to draw the line between truly physiological or slightly pathological conditions and those which are, clinically, characteristic of nephritis. We all are familiar with the so-called physiologic, cyclic, adolescent, orthostatic, and other varieties of albuminuria, which are rarely, if ever, accompanied by the other urinary findings which we have learned as characteristic of nephritis. However, when we consider febrile albuminuria, then do we find, occasionally, all the urinary abnormalities which are so commonly classed as nephritic findings. According to Gerhardt, febrile albuminuria has come to mean the albuminuria accompanying fever, without the presence in the urine of abnormal constituents other than an occasional cylinder. This idea must however, be abandoned in view of the work of v. Leyden, v. Leube, Senator, Naunyn, Cohnheim, Hallauer, Lüthje and others. These workers have found, as constituents of the urine during febrile attacks, all of the elements shown in true renal inflammations. The relation of the albuminuria to the fever has probably no direct dependence on the temperature, as various workers have shown that increased temperature, per se, does not cause a true albuminuria, but rather an albumosuria. These facts in themselves show us, beyond a doubt, that what we clinically classify as nephritis is primarily a constitutional or metabolic process with secondary manifestations in the kidney. The clinical picture of pain in the back, voiding of a urine scant or abundant, containing albumen, casts, blood, epithelial cells, etc., oedema, and other well known signs are symptomatic of what we term "renal in-

sufficiency," a term having no more scientific basis than the term "heart failure" as applied to organic lesions of the heart.

We must not forget, in our effort to show the influence of metabolic disorders on the kidney, that this organ is not only excretory but is secretory as well. The internal secretion of the kidney has, in its way, perhaps as marked an influence on the nitrogenous metabolism as has that of the pancreas on the carbohydrate metabolism. It is a well known surgical fact that the removal of a part of the kidney, in persons shown post-mortem to have been possessed of but the one kidney operated upon, is accompanied by death, although polyuria along with increased urea secretion is observed. The cause of death in these cases seems to be due to a disturbance of metabolism resulting in the increased nitrogenous decomposition evidenced by the increased urea, sulphate, and phosphate excretion. If then according to our contention nephritis is primarily constitutional and later local, as a result on the part of the kidney to eliminate the retrograde products produced by an abnormal metabolism, then are we justified in an attempt to show that certain irregular metabolism may excite pathological changes in the excretory organ and thus give rise to the different varieties of what we choose to call nephritis whether it be acute, sub-acute or chronic, and whether it be diffuse, parenchymatous, or interstitial.

When one considers the etiology of nephritis he finds in every case that the causative factor is one which has produced marked metabolic or functional disorders resulting in the production of toxins, irritant poisons, changes in the properties of the blood, and various other pathological abnormalities which in themselves cause irritative and later inflammatory lesions in the kidney, resulting in nephritis. Thus, if we accept Senator's classification of causes, we find, (1) infectious diseases, (2) toxic agents, (3) exposure, (4) pregnancy, (5) trauma (?), (6) extensive skin lesions (Osler). All of these etiological factors change in many ways the normal metabolism and place new burdens upon the secretory organs,

especially the kidney. Any of these causes may or may not bring on an attack of nephritis depending on the strength of the irritation, the time of its action, and the resistance of the kidney to the irritation. As is well known, not all of the infectious fevers show nephritis as a common complication but they may providing the toxin, produced by the metabolic activity of the germ producing the disease in question, is of sufficient virulence. It may be well to call to mind in this connection that not always do we find in scarlet fever, for instance, symptoms of nephritis although the kidney may show marked degenerative changes post mortem, nor do we always find marked changes in the kidney when the clinical manifestations of nephritis are present. In this connection I may cite the recent results of Cabot.

It is not within the scope of this paper for me to discuss the various metabolic changes brought about in the organism by fevers, exposure, pregnancy, irritant poisons or any of the other etiological factors of nephritis, as I wish more particularly to treat of certain changes brought about in the metabolism which can be directly traceable to the nephritis, which in itself has been the result of the abnormal metabolism caused by the factors previously mentioned. Time will not allow a discussion of the various anomalies of urinary secretion observed in nephritis nor a digression on the subjects of the causation of the albuminuria and its connection with the older ideas of Semmola and later of Lepine and Rosenbach. I wish to limit myself in this paper to the three points of chloride retention, oedema, and uraemia, all of which can be shown to be, to a more or less extent, dependent on the lesions in the kidney, although certain phases of their pathological chemistry can be observed in normal individuals.

1. *Regarding the Retention of Chlorides in Nephritis.*—Since the publication of Widai and Javal in 1903, a large number of French and a few German workers have busied themselves with showing that, chloride of sodium is, contrary to our well-established ideas, a decidedly harmful substance

in cases of nephritis. Although Widal and Javal, Achard, Loeper, Claude, Bohne, Castaigne and others did not originally apply their ideas to anything but the parenchymatous variety of nephritis, later workers such as Achard and Paiseau, Brandenstein, Calabrese, Chauffard, Olmer and Audibert, Merklen, Lesné, Vaquez and Laubry, Strauss, with a host of others, have extended this original idea to interstitial nephritis, cardiac and hepatic dropsy, epilepsy, etc. These workers have found that the chloride is retained in the system, that along with this the oedema is increased and a greater albuminuria is noticed. Some recent work of Miller has shown that there is quite as much retention in normal individuals as in nephritics. That oedema is not observed in the normal goes without saying. Ferrannini has shown that although chlorides are retained in nephritis and albuminuria is increased, the general betterment of the condition warrants the use of this substance as subcutaneous injections.

Rumpf in a recent article shows that the idea of retention of sodium chloride as an etiological factor in the causation of the oedema of nephritis is not well grounded. Richter confirms this and believes that NaCl is no more responsible for the oedema than are many other factors, especially the amount of water intake. Marischler shows that the kidney of parenchymatous nephritis is permeable for the sodium chloride and that the retention of NaCl is explained by the primary retention of water. Kövesi and Roth-Schulz confirm this idea and go further into the physical explanation of the oedema. We see, therefore, that this assumption of the causal relation of retention of chlorides to the oedema is still a debatable one. It may be well, at this moment, to ask how does NaCl act in the normal and how in the nephritic metabolism? When NaCl is administered, by mouth, it of course is absorbed from the stomach and bowel. The blood becomes more concentrated, hence water passes from the tissues into the blood, making this hydraemic. The excess of water and of salt is, normally, excreted by the kidney as this organ is the osmo-regulator

of the body. NaCl therefore acts normally just as any other salt, such as the citrate or acetate would act, as a diuretic, owing, simply, to its so-called "salt-action." The question might be asked in this connection as to why normal individuals show a retention of chloride. The answer must be rather vague in the present state of our knowledge. "The amount of NaCl in the blood is," according to Hammarsten, 6 P. M., and this amount remains almost constant. With food containing an excess of NaCl, this excess is quickly eliminated and with food poor in chlorides the amount in the blood first decreases but later increases, after taking chlorides from the tissues. The secretion by the urine is thereby diminished and we have an *apparent* retention." This retention it must be insisted on is only apparent and vanishes as soon as the proper osmotic equilibrium has been established between tissues and blood. According to Marie we have two stages in the retention of chlorides and these stages depend, of course, on the laws of osmotic pressure and of chemical equilibrium. The first stage of retention, as Marie puts it, is that of fixed chloride (tissue), namely the combination of the NaCl with the proteids of tissues, which assumption has been experimentally shown to be possible by van Bemmelen, but is doubted by Bugarsky and Liebermann. The second stage is that of circulating (interstitial) chloride. This added point shows us how in the first stage we get a retention if the NaCl of the blood is insufficient owing to a poor intake and is then increased by food rich in NaCl.

If now the kidney is "insufficient," or, in other words, is unable owing to the inflammatory processes affecting its excretory activity, to excrete the excess fluid and its constituents, we have a retention of salt in the circulatory system, a hydraemia and at the same time a plethora, vascular pressure is increased, transudation through the capillaries follows, an attempt is made to adjust the osmotic pressure of the blood and the tissue fluids, salts pass into the tissues, which, in time, become hypertonic, and in consequence, water follows the salts

into the tissues and oedema occurs as a combined result of increased vascular pressure with transudation and the retention of salts in the tissues. This theory of oedema as a result of osmotic exchange between the blood and tissues was advanced by Loeb in 1898 and has been reached by the French school, especially by Widal and Javal, working from different standpoints.

It is difficult to say just why nephritics show increased albuminuria after increased intake of sodium chloride, yet, one may call to mind the results of Hoppe-Seyler, von Wittich and Nasse, showing that an albuminous solution filters stronger, the greater its content of salt. This purely chemical fact may also be applicable as far as the purely physical theory of filtration through the kidney is concerned. On the other hand one may assume that the kidney has become more permeable for albumen or that the albumen itself has become more diffusible inasmuch as various workers have shown that normal individuals, in time, show an albuminuria under the influence of increased intake of NaCl.

There are difficulties in the way of both explanations. In the first place, if the kidney has become permeable for albumen, then would it not be permeable, at the same time, for the increased chlorides? If the albumin is more diffusible, it is not as diffusible as the NaCl and yet the latter remains and the former passes out. We must again revert to the osmotic theory for our explanation. Proteids possess only a slight osmotic value while the salts have very large equivalents. The osmotic and the diffusion currents extract the fluid and the salts first from the tissues and then later from the blood back into the tissues. The proteids are not affected by this interchange unless we may assume, with Semmola, that some change in the constitution of the proteids by which they become more diffusible is brought about in nephritis. In this connection I wish to mention some experiments, which I began under Senator. It was found that the urine of nephritics showed the separation of a coagulatory inhibitory substance and at the same time

of a distinct ferment with marked peptic characteristics. This latter was in all probability simply an increased amount of the normal peptic ferment found in the urine by Grober, Gehrig, Grützner, Mathes, Rosenberg, Stadelmann and others. This separation of a substance in the urine which favored or inhibited coagulation of proteid has been previously worked out by Lenobel, Kun and Lochbihler on pneumonia. It is possible that the albumen becomes more diffusible solely through the presence of these two substances whose identity I am at present unable to give. It is, however, a very strange fact that NaCl will increase or cause an albuminuria. The explanation best suited is, it seems to me, that we have a pure toxic albuminuria. This toxic action of NaCl is well known physiologically from the work of Loeb, Moore, Neilson and others.

2. *Oedema as a Result of Nephritis.*—I will refer in this connection only to the oedema caused by the lesions of the kidney resulting in certain pathological changes of the metabolism of the fluids and solids of the blood and tissues. I exclude a discussion of cardiac and hepatic oedema as well as of "Hydrops Cachecticus" which has no direct place here, although I am convinced of the correctness of the reasoning of Kövesi and Roth-Schulz, that the cause of cardiac and renal oedema is a common one.

We must abandon the old conception of Bright that the oedema was caused by hydremia of the blood resulting from the loss of albumen and hence the watery constituents of the blood more easily passed out of the vessels, just as we must give up Bartels' and Stewart's ideas of a hydraemic plethora, because we can show that retention of urine, per se, will not bring about an oedema.

Cohnheim assumes an inflammatory change in the vessels by which they become abnormally permeable. Senator remarks, "under the influence of certain injurious properties of the poison circulating in the blood, the capillaries of the glomerulus first suffer and then, if the injurious action be strong enough and long enough continued, the interstitial and other vascular areas, out-

side of the kidney, such as those of the skin and serous cavities, become affected. A glomerular affection is always to be looked for when oedema is present, but not vice versa." Kövesi and Roth-Schulz would make the insufficiency of the kidney in itself responsible for the changes resulting in oedema. The changes in the kidney excite abnormal metabolic processes by increasing the watery and solid constituents of the blood and preventing the elimination of the poisonous toxic and autolytic products. As a result of increased vascular pressure combined with abnormal permeability of the capillary walls and increased osmotic changes oedema follows. It is well to remember in this connection the role played by the perspiration both sensible and insensible. As Bidder and Schmidt, Seegen and others have shown, the amount of perspiration depends on the temperature and the degree of saturation of the surrounding air. However it is a well known fact that nephritics perspire very slightly. v. Koranyi comes forward here with an explanation of increased osmotic pressure of the blood, raising the point of evaporation of fluid and hence decreasing the perspiration. It is possible thus to explain a part of the effect of NaCl in increasing the oedema by lessening the loss of water by the skin and lungs. The amount of fluid taken in is also a large factor in the causation of the oedema. As the fluid is absorbed just as it is normally, the hydraemic condition is increased and with the resulting insufficiency of the kidney, water elimination being the first abnormal phase noticed when the kidney becomes affected, aggravation of an oedematous condition follows. We have here a distinct reason for limiting the intake rather than increasing it, as we cannot flush the kidney in this way owing to its lessened excretory activity. The result is an overburdening of an already highly taxed heart and an increase of the oedema.

3. *Uraemia as a Result of Nephritis.*—In the discussion up to this point I have not attempted in any way to take up the effects of nephritis on the system in general, but have rather limited myself to the point at issue. Under the head of uraemia one

must bring in certain points of general pathology and pathological chemistry in an attempt to show that this is a result of purely metabolic processes. The symptomatology of uraemia is too well known to you to need mention. The causation of these symptoms is my topic. As oedema is a combined result of renal and vascular causes on the metabolism, so is uraemia the result of renal and resulting metabolic changes on the cerebral centers and on the digestive system. The subject of autointoxication is one which is of general interest whether it be enteric, hepatic or renal.

The theories advanced as to the causation of uraemia have for the most part as a basis the idea of overloading of the blood with urinary constituents as a result of an insufficient kidney." Opposed to these theories are those that hold that Hydrämie with resulting oedema of the brain is at the bottom of the symptomatology. These latter ideas are especially advocated by Rees and Traube, but do not seem to be convincing, inasmuch as certain factors, assumed by the advocates, are at times missing and hence cannot be regarded as causative of all cases. I refer here, of course, to the hypertrophy of the heart and to the brain oedema. We must, however, grant that the oedema may be responsible for certain nuclear symptoms observed in uraemic attacks.

Time will not permit an enumeration of all the factors advanced in support of the chemical theory as opposed to the physical. We all know that the retention of almost every constituent of the urine has, at one time or another, been hailed as the causative factor in uraemia. One by one these substances have been abandoned until now we can not grant that any one substance is specific in the causation of this group of symptoms. From the time that retention of urea as an etiological unit was advocated by Wilson until the list had been exhausted by Bouchard in his assumption of organic urotoxins, we have been obliged to change our ideas of the factors responsible for the trouble under discussion. Opposed to these views are those of Frerichs, Demjankow, and the closely re-

lated one of Treitz, which assume an "ammoniamie" as the causative agent.

Strauss found that ammonia was increased in the blood but at the same time other nitrogenous bodies (neither albumin or urea) are present, which must play a role in the etiology of uraemia. He shows that while the salt content of the serum in uraemia shows no change, the amount of the nitrogenous constituents contained in the hydraemic serum, i. e., the Retention-N, is, as a rule, increased to a great extent. In connection with this work of Strauss, one must mention the findings of Gumlich and Richter that ammonia, alloxur bodies, and extractives, were markedly increased in the urine of uraemics. It is unnecessary for me to discuss the relation of an increased ammonia excretion to an increased acid formation in the tissues. This regulation of the metabolism is a well established fact. This taken with the idea of Strauss gives us a very rational basis for the etiology of uraemia. I quote from Senator. "One may characterize uraemia as an auto-intoxication with nitrogenous substances, dependent on destruction of the function of the kidney, which is accompanied by proteid decomposition leading to abnormal acid formation."

This idea, general as it is, has a scientific and experimental basis and does not assume a specific unit as the causative factor. In the retention-N of the blood we find, beside urea, uric acid, ammonia, and proteids, other bodies among which we may discover the specific, if such there be. That acidoses bring about conditions closely simulating uraemia is evident from the effects noticed in diabetes, pneumonia, and in the after-effects of certain anaesthesias.

Thus we are justified in our assumption that uraemia is purely a group of symptoms brought about through disordered metabolism as a result of lesions in an insufficient kidney, which have been caused, in their turn, by attempts, on the part of the kidney, to eliminate products of an abnormal metabolism, the result of a specific or non-specific toxic agent.

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RESPIRATORY OXIDATION STIMULANTS IN NEPHRITIS. PULMONARY, SYCPNOEIC AND ALLIED CRISES.*

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The influence of oxidation on metabolic processes is now a central feature not only of physiologic working hypotheses, but of pathologic as well. It has been demonstrated beyond a doubt that most of the conditions like diabetes, gout, etc., are the result of the products of suboxidation.

The ease with which the oxygen carried by the plasma penetrates the minute vascular

network of all cellular elements not only furnishes a clew, as Sajous remarks, to the physiologic destiny of the latter, but likewise shows that various structures, the functions of which were unknown, are blood channels, or rather plasma channels. Thus the axis-cylinders of all the nerves and the dendrites of neurons were found to contain a fluid identified as blood plasma in its reactions to staining fluids. Even the neuroglia fibrils asserted their identity as plasma capillaries; the neuropgia felt work of the substance of the brain and cord representing the intrinsic circulation of those organs. The muscular contractile structures, the various glandular organs, including the liver, pancreas, and spleen, the gastric and intestinal glandular elements, etc., were all found to be so disposed as to allow the free circulation of this oxidizing plasma, the red corpuscles passing on in the larger channels. Contraction of the heart walls is due, according to Sajous, to the adrenal secretion which penetrates the heart substance by way of the Thebesian foramina. The coronary arteries likewise supply the cardiac muscle fibers with oxidizing substance.

In the muscular elements myosinogen is the primary source of residual energy. When combined with the oxidizing substance of the plasma, this organic body liberates the mechanical energy required for a given contraction; the nerves merely inciting and governing muscular function. Fibrinogen of the blood is similar to myosinogen and combines in fixed quantities with the corresponding proportion of the plasma's oxygen.

The fluctuations of the body's temperature correspond to variation in quantity of fibrinogen supplied to the plasma. The source of functional energy in the nervous system is myelin, whose active constituent is lecithin, now used extensively in therapeutics. This myelin surrounds the axis-cylinders of all nerves and lines the inner surface of the dendrites of neurons and forms the ground substance of thin cell bodies.

The influence of oxygen on nerve conditions, whether related to direct disorder of the respiration or not, was long ago pointed out by Meynert, who showed that contraction

of the arteries by impeding respiration necessarily engenders a dyspnetic phase of nutrition, and modifies the chemical changes associated with irritation resulting from a certain degree of dyspnetic intoxication. Dyspnea of tissue alone suffices to excite repulsive movements. Inspiration is the most ordinary form of repulsive movement evoked by a dyspnetic stimulus which in extreme cases may, by irradiation, involve a number of muscles. This stimulus results not only from defective breathing, but likewise from increased arterial pressure or from arterial contraction.

Impoverishment of the brain substance in oxygen has the effect of a chemical irritant which excites dyspnetic respiration in the medulla and produces epileptic changes in the convulsion center. Increased arterial pressure in the cortex produces an improvement in oxygen. As soon as the condition of painful sensation exists, a dyspnetic phase of nutrition is established. The association of acidosis and glycosuria, as shown by Coriat to exist with melancholia, the stuporous insanities and the depressed phases of other psychoses, indicates the sub-oxidation which occurs in conditions of painful sensation, and, as pointed out by Meynert, underlies the general failure of nutrition in these states.

The nature of the substances carrying oxygen in the system, as indicated by Sajous, shows that the kind of oxygen needed for therapeutic purposes must be one which has passed through biochemic changes and exists in a form that would pass into the circulation ready to become myosinogen or fibrinogen. There are two therapeutic agents which have been found to possess this quality. Both of them have been used therapeutically in the relief of disorders of respiration, and in cyanosis. About twenty-six years ago Penzoldt observed that the addition of quebracho to cyanosed blood produced a change in the arterial direction of a most decided character. Shoemaker asserts that the drug is of decided value in dyspnea of all kinds, whether bronchial, cardiac or nervous. In emphysema, with or without asthma, and in spasmodic croup it is of decided value. It improves the respiration when taken before hill-climbing.

Its effect in relieving cyanosis is decidedly marked. It diminishes the pulse and temperature in acute rheumatism, and in inflammations of serous membranes. A notable phenomenon observed in poisoning from the drug is that although death may take place from asphyxia, the venous blood is red or reddish. For this reason Penzoldt believed that the relief of dyspnea obtained clinically from quebracho was due to its increasing the power of the blood to take oxygen and the dyspnea caused by poisonous doses was probably due to its preventing the blood yielding the oxygen to the tissues. From what is known of the effects of over-stimulation with oxygen, this explanation seems probable.

In the depressed psychoses, the cerebral disease exerts an inhibitory action on cardio-motor innervation, causing the pulse to be very small, the arterial tone low, and the capillary circulation very weak, and, in many cases, decided thoracic symptoms with mental distress, resembling attacks of suffocation accompanied by precordial fright, as it has been termed.

Kiernan states that quebracho is indicated in melancholia and conditions of depression, and probably for the reason just outlined. He reports a case which seemed at the onset to be one of melancholia with the facies, capillary circulation, and emotional depression well marked. The patient had phthisis and had been deserted by her husband. She ran down rapidly, and at one time seemed almost moribund from dyspnea. To relieve this, quebracho in half-dram doses of the fluid extract was given every hour, with very beneficial effects, not only on the dyspnea, but likewise on the mental condition. She improved rapidly; the facies and depression of melancholia disappeared, but with this came new delusions. It was found on careful investigation that the patient had had systematized delusions of grandeur for years before being suspected of any mental disease. The melancholia was, therefore, a complication of preexisting paranoia, which had not been detected. Kiernan, guided by this case, has used quebracho and found it of value in melancholia, in conditions of depression, and in the pseudo-apnea which accompanies the

pseudo-anginas of auto-toxic neurasthenia and allied states.

The eclectics and veterinarians have long employed rosin weed (silphium) in similar conditions to those in which quebracho is indicated. Indeed, rosin weed is an excellent synergist to quebracho. The fact that the depressed states have the marked suboxidation results, as pointed out by Coriat, indicates the use of these two oxidizing agencies in glycosuria and acidosis.

The *modus operandi* of jambul in glycosuria and acidosis is allied to that of the two drugs mentioned, and the three form valuable synergists. The alkaloid of quebracho, aspidospermine, possesses all the medicinal properties of the drug, is reliable, uniform in strength, and can be used hypodermically. It has decided effects on the temperature of acute articular rheumatism, and does not produce cardiac depression. The specific tincture of rosin weed made from the green drug is a very reliable preparation, perhaps the most reliable.

Dyspnetic crises occur in conditions where there is disturbance of the monarchical vasomotor center of the medulla. They are hence to be found in connection with acidosis, whether related to diabetes, to the psychoses, to parietic dementia, to locomotor ataxia, to traumatism, or to epilepsy, neurasthenia or hysteria. In hysteria, conditions often occur where there is a suppression of the normal degree of acidity accompanied by dyspnea, which is but too apt to be regarded as simulated. What is true of acidosis is likewise true of the uremic states, whether secondary to the neuroses and psychoses just mentioned, or the arterio-capillary fibrosis of Gall and Sutton, which is now recognized as the constitutional basis of most forms of chronic Bright's disease, or to the acute inflammatory forms of nephritis, which produce secondary constitutional symptoms, albeit the primary lesion is in the kidney.

In all of these dyspnetic states the one great indication is to stimulate and sustain respiratory action. This can be done only by agents which will remove the hematic source of the condition, and at the same time will

sustain the heart and lungs without unduly removing them from the inhibitory action of the medulla. In the dyspnetic coma of the acidotic states good results have been attained by large doses of sodium bicarbonate, assisted with codeine, morphine, heroin and apocodeine. Every one of these preparations of opium, save apocodeine, locks up the secretions, thereby impairing the benefit given through heart stimulation. Agents are therefore needed that are destitute of such action on the secretions. In the conditions referred to an error in diagnosis easily results, since while there is marked action of the bowels and kidneys, the eliminative element is deficient. This is singularly well shown in the fact that the first beneficial effect of sodium bicarbonate appears in the reduction of the quantity of urine passed. A patient passing three gallons of urine a day, will have the amount reduced to one gallon and a quarter by sodium bicarbonate given in a half gallon of milk. Here the amount of water which is taken from the tissues is diminished by the influence of the sodium bicarbonate because of its neutralizing power on the B-oxybutric acid formed by the muscles, as well as on the production of diacetic acid and acetone. The enormous strain to which the passage of such quantities of acid through the blood vessels subjects the heart calls for marked sustenance of it by agents which do not interfere with the excretion of the acids or which change them by oxidation. While oxygen has been administered for these purposes with some success, still oxygen which has undergone no biochemic change is not easily assimilated, and requires much time for assimilation.

Since quebracho, rosin weed and jambul have the common property of rendering venous blood reddish, as already pointed out, it is evident that these drugs can take the place of oxygen and of the opium alkaloids, with much better results as to heart stimulation and as to elimination. What is true of the acidotic comas is equally true of the comas arising from uremia, etc. In every one of these conditions aspidospermine has proved itself of great value, whether given by the mouth or hypodermically. The one great

value of this class of drugs in these states is the fact that in addition to their powers on the monarchical vaso-motor center in the medulla, they have the power through their influence on blood quality of overcoming arterial tension to a great extent. This is of special importance when it is remembered with what frequency hemiplegia and aphasia follow uremic and acidotic comas.

These drugs during the eighties were used considerably, and with marked success, in the conditions described, but fell into desuetude along with many other useful remedies, because of the wave of therapeutic nihilism occasioned largely by distortions of the microbic hypothesis, which led to neglect of all but antiseptic therapeutics, and that adopted by the "man behind the knife." With the growth of the chemical phase of the germ theory, oxidation has once more come into play as an important phase of biochemistry, and the agents producing this, such as I have indicated in the present paper, are deserving of further study.

It is pleasing to note that rational therapeutics and dependable remedies are receiving a little more thoughtful consideration than they have for some years past, and it is the purpose of this paper, and will be the purpose of many papers I hope to write hereafter, to stimulate a more earnest study of internal medicine and, especially, of therapeutics.

Discussion on Papers of Drs. R. W. Webster and G. F. Butler.

Dr. Samuel A. Oren, Lewistown: Both papers are very interesting and cover the ground completely. I wish to go on record as believing that the time is not far distant when diabetes will not be called a disease, but will be recognized as a symptom of one of many diseases.

I wish to report one case of nephritis which had a very marked albuminuria. The patient was a young man; there was general edema, the skin was as tight as it could be. The heart action was very labored; in fact, the patient had been given up to die.

In examining the urine, a drop of nitric acid would make it as white as milk, but I could not find any casts. I put him on digitalis and nuxvomica, but without obtaining the desired result in the way of improved heart action and free diuresis. On close examination, I thought I could detect dullness in the lower portion of the pleura. I introduced an aspirating needle and withdrew about two ounces of what I supposed was serum. The urine immediately began to clear up, and in two weeks,

without any further particular medicinal treatment, the anasarca had disappeared entirely. The urine was clear and the case was practically cured.

I kept track of that patient for about eighteen months. It was always a puzzle to me just what the exact condition had been pathologically, but my final conclusion was that this young man had had pleurisy with effusion, and that the kidneys were carrying off that serum albumin.

Dr. Wm. F. Waugh, Chicago: I have listened with a great deal of interest to these papers upon nephritis, and I want simply to supplement them by directing the attention of the meeting to a remedy which, I believe, has not been mentioned. I refer to veratrine. In the cirrhotic form of nephritis, when there is necessity of relaxing abnormal vascular tension, veratrine will accomplish this better than the nitrites, because with the latter you cannot maintain a sustained action for long periods, valuable as they are for immediate, rapid and temporary effects. With veratrine you can sustain such action for periods of eighteen months or more without injury to the patient.

As to potash in contracted kidney. We look with apprehension for the development of uremia, manifested by convulsions, due to the retention in the system of toxins of a convulsant character. Since Bouchard's time we look on potash as a toxin of a convulsant character, so that I am quite unable to say why, in such a condition, the potash salts should be administered, unless on homeopathic principles, and then they should be administered only in homeopathic doses. In veratrine we have an agent that throws open all the doors of elimination, and it has more clinical testimony in its favor than all the other remedies that have been used.

In a little booklet which I picked up over at the Exhibit, I notice the dose of veratrine is given at 1-50 to 1-10 of a grain. I venture to say that nobody who ever used chemically pure veratrine ever used it in 1-10 grain doses. It is irritant in much smaller doses. A dose of 1-2 milligram is quite as large as should be administered by the stomach to any patient at the beginning. This dose, if diluted or given in a stomach that contains food, can be quite readily borne; and repeated, as its action is quickly manifested, every half hour, if necessary, until the vascular tension has been relaxed to the desirable degree. Then such doses are given as will keep the tension where desired; and I venture to say that there is no more efficient or safer remedy that can be used in this condition.

This seems of particular importance since in this condition of disabled kidney there is danger even in giving remedies which ordinarily are not dangerous. During the Centennial Exposition, a man died in Philadelphia from 1-8 grain of morphine. He had contracted kidney.

Veratrine is here the only remedy which is promptly efficient, and safe, and which actually obviates that danger which lies in the administration of even ordinarily harmless remedies.

INFECTIOUS URETHRITIS OF THE NON-GONORRHEAL TYPE.*

BY F. KREISSL, M. D., CHICAGO, ILL.

The paper which I have the honor to read before this body presents an interesting problem rather than anything which would permit of any definite conclusions regarding etiology, pathology or treatment of a variety of urethritis puzzling many practitioners. Dealing with a large number of cases of urethral secretions, you will occasionally meet a few which upon close inquiry and investigation show a marked difference from the ordinary case of gonorrheal urethritis, concerning initial symptoms or further course, and reaction to the various recognized measures successfully employed in gonorrhea.

There is either no history of a previous gonorrheal infection or the discharge in question is a continuation of a typical gonorrheal urethritis, or it appears weeks or even months after a typical gonorrhea was apparently cured. In the last group quite frequently a new infection is practically out of question because the thoroughly trustworthy patient either denies having had sexual intercourse, or admits it, but has always used a condom. The symptoms accompanying this condition differ materially from those observed in gonorrhea. In primary infections of this kind preceded by an incubation of from a few hours to several weeks, a scant grayish-whitish secretion, and slight tickling or itching in the urethra near the orifice are observed. The same quality of secretion is noticeable in the cases of the second and third groups mentioned above. Sometimes with or without any direct cause, the secretion becomes more copious for a few days, then again decreases, and eventually disappears completely, only to appear again with or without a traceable provocation. The urine always contains more or less shreds. In the vast majority of these cases, I should say from my own experience in over 90 per cent the process remains wholly confined to the tissues of the anterior urethra, and compli-

cations or sequelae of any kind, as one expects and sees in gonorrhea, are of an extremely rare occurrence. The urethroscopic inspection of the cases of the first group—primary infection—furnishes little positive material. In the very early stage some hyperemia or slight edema of the urethral mucosa is visible, rarely any inflammatory signs in and around the glandular apparatus.

In the cases of the second and the third groups you may find lesions commonly observed during and after a prolonged gonorrheal urethritis, but almost as often you do not, especially not in those cases in which the gonorrhea has been checked before it had a chance to establish the lesions peculiar to its chronic stage.

The most interesting and the most important feature of the condition is offered in the microscopical study of the discharge itself. Stained with an alkaline methylen blue solution, you see in the more recent case, or at times of exacerbation, numerous leucocytes; at other times very few leucocytes, but many flat epithelial cells. There are ever present, though varying in numbers, one or two or all of the following microorganisms:

Staphylococcus, *pneumococcus*, *pseudodiphtheria bacillus*, *coli bacillus*, *gonococcus* only in cases in which a preceding or simultaneously occurring gonorrheal infection has not been checked. Sometimes the *staphylococcus* predominates and there are but very few germs of the other variety at other times, even in the same case, one of the other germs occupies first place in numbers. And, again, there will be days and weeks, when nothing but leucocytes will be seen under the microscope, and only a careful culture test will demonstrate the presence of those microorganisms in the secretion.

For four years since, with the valuable aid of Dr. Evans and Dr. Gehrman, of the Columbus Laboratory, I commenced to approach this subject closer, I had two points in view, to trace the infection to its origin, and to find a way of successfully checking it. I regret to state that after all this laboratory and clinical work I am not positive regarding the first point, and I do not know much more about the treatment than I knew four years

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

ago. In the latter point I find consolation in the company of thousands of others. It would lead too far and take up too much of the time given for this paper to quote all the references on the bacteriology of the healthy and the diseased urethra, but I have to mention a few publications of recent years having some bearing on my subject. The author of the first publication on "Urethritis Non-Gonorrhoea," in 1901, was Barlow, who established the fact of the existence of such a condition, stating his belief in its infectious character, although no bacteria could be found in the secretions.

Goldberg reported a case of primary streptococcus infection in 1901, and was followed in 1902 by reports of Waelsh and Galewski, on non-gonorrhoeal urethritis, in which some kind of a bacillus, sometimes a streptococcus, staphylococcus albus was found in the secretion. In the same year Camille Audistère, in "*Le Progres Medicafe*," was able to prove the infection in five cases of purulent endometritis to be caused by staphylococcus, and "various bacteria," traceable to the urethral secretion of the respective male partner.

Another publication by Dreyer of more than ordinary interest appeared in 1904. It accuses the enterococcus found by Thiercelin as responsible for these peculiar and apparently intractable urethral secretions. The enterococcus, according to Thiercelin, is omnipresent. It abounds in the feces, especially in intestinal disturbances; it was found in the stomach in gastric fever, in abscess of the liver, in the nose, mouth and pharynx during influenza, in the pus of a pulmonary abscess, and it exists on the skin and in the vagina. This coccus, according to the laboratory experiments of Dreyer, changes under certain conditions into a bacillus resembling the diphtheria bacillus, and after inoculation on bouillon or agar reverts into a coccus!! In living tissues it assumes the shape of a pneumococcus. A remarkable series of transformations!

On the other hand, a number of authors have established the fact of the presence in the healthy urethra and vagina of all the microorganisms which are seen in these secretions, and the only conclusion permissible

is that these saprophytes ordinarily harmless and occasionally present in small numbers become virulent on certain membranes, which by some provocation have lost their natural power of resistance, and thus have been rendered a favorable culture medium. As such provocation, we may regard anything causing hyperemia and congestion also traumatic lesions of the mucosa. And, indeed, upon inquiring, we will be able in many cases to trace the inoculation back to a sexual excess, violent exercise, other indiscretions, or urethral instrumentation, etc., immediately preceding the intercourse responsible for the disease. In others very likely the infection with gonorrhea and these germs occurred simultaneously, perhaps in others the uncured gonorrhea rendered the urethra susceptible for the subsequent infection.

Regarding the treatment, very little of value can be said. The few cases of coli infection which I have seen promptly and shortly yielded to the internal medication with larger doses of urotropin or other formaldehyde preparations. In a few staphylococcus infections mercuriol, in one-half to two per cent solutions, proved very effective. So did two per cent ichthylol solutions, where the patient would tolerate the smarting sensation caused by the medicine.

In one case in which the urethroscope showed several islands of pseudo-membranes, and the cultures nothing but pseudo-diphtheria bacillus, I used antitoxin hypodermically on two succeeding days, and the discharge disappeared. I have seen the case since then repeatedly. It is over two years now, and everything is apparently normal. Perhaps a urethral injection with the antitoxin might have had the same effect. Encouraged by this result, I tried this treatment in other cases in which the bacillus was found in company with staphylococcus and pneumococcus but without success. In a few cases I used electrolysis in apparently diseased pockets and follicles with good results.

Several years ago, I think in 1901, Reichman, of Chicago, published a case of this kind in the *Prager Mediz. Wochenschrift*, stating that following my advice he effected a permanent cure by electrolysis.

Very few of them seem to improve by one or the other method of treatment, but get worse as soon as the latter be discontinued, and most of them even while under treatment. A few recover without any treatment, some of them completely, some to that extent that the discharge ceases, but shreds are constantly present in the urine. Most of them seem to be well for days, weeks, even months, when with or without a palpable cause the secretion reappears. Several times I saw the trouble permanently gone after a super- or reinfection with gonorrhea, which was complicated by epididymitis or prostatitis, and a high temperature for a few days. One of my patients who carried this infection for over two years lost it permanently after a severe typhoid fever. Light has a deleterious effect on the pneumococcus and bacillus diphtheriticus, and I have in mind to utilize urethral injections with radioactive fluids in the future.

In looking over the large number of cases of this type which I have closely studied, with the kind assistance given me by the exact work in the Columbus Laboratory, I should conclude that they are far more frequent than the few sporadic publications would make it appear. While the proportion of primary infections is a very small one, I know that in fully 15 per cent of the cases of gonorrheal urethritis, the other infection occurs simultaneously, and in others appears sooner or later at any rate within a few weeks after the gonorrhea was noticed. This condition is not recognized in the beginning of an acute gonorrheal urethritis, because one is generally satisfied to find pus cells and numerous gonococci, and forgets or is not aware of the fact that at this stage the gonococcus overshadows all other microorganisms, and that only a culture test may disclose the presence of the latter. After a few weeks or months, when the gonorrhea has been cured or has become subacute, the presence of the other germs which all take and retain the alkaline methylen blue stain is without difficulty recognized. And yet it is just all-important to know the real condition in the early stage of the gonorrheal trouble, because on this depends the prognosis of the case and

the prestige of the physician. While I venture my often repeated statement that every physician who is somewhat familiar with the true principles of the treatment of acute gonorrheal urethritis, will always successfully employ the well known specifics therein, I am positive that nobody as yet can truthfully say he can cure the above infection of the non-gonorrheal type. In recognizing this fact many a physician who has heretofore considered the silver preparations as inferior or ineffective anti-gonorrheal remedies will change his views, and so will the physician gain more confidence in himself, who thought it was his own fault that his cases of gonorrhea did not get well. A clear understanding of the situation will enable him to tell his patient at his first examination what he has to expect concerning an early and lasting recovery. To further this end and perhaps also to find as positive a remedy for this type of urethral infection as we have it in the silver preparations in gonorrhea, the more frequent employment of the microscope and the culture box points the way.

DIET IN TUBERCULOSIS.*

BY MISS ADELLA SATER,

DIETITIAN OTTAWA TENT COLONY.

Osler says: "The cure of tuberculosis is a question of nutrition. Digestion and assimilation control the situation, make the patient grow fat, and the local disease may be left to care for itself. This is the foundation upon which the modern treatment of consumption rests."

Since the treatment of tuberculosis is a question of nutrition, and since it is a recognized fact that no medicine or germicide can take the place of nutritious food as a factor in recovery, is it not essential and of the greatest importance that there should be the same degree of intelligence at work on the food problem, and the proper education required for this branch of the treatment, as for the medical treatment?

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

While nutritious food is recognized as essential in the treatment, not enough emphasis has been placed upon it, neither has it been prepared and prescribed as scientifically as possible. In this treatment the dietitian stands in the same relation to the physician as the pharmacist, in other words, the dietitian is the pharmacist.

Ellen Richards says: "When the therapeutic value of food is more fully recognized there will be greater willingness to authorize the expense required in providing the best. If the surest means of securing immunity from attacks of disease is well nourished tissues, then the best handmaid of medicine is that nourishment which will be accepted by the tissues, and which thus aids in vanquishing the enemy which has already gained a foothold."

It may be set down as a positive fact, that the predisposing cause of tuberculosis, the condition under which the disease is able to obtain a foothold, is a lessening of the natural resisting powers, due to the fact that the nutritive processes are deficient. Among the causes of such defective nutrition are under-feeding, defective feeding, improper preparation of the food, over-feeding, and the consequent gastric disturbances resulting therefrom. Believing then that nutrition plays such an important role in the acquirement of the disease, it follows that it is of still greater consequence in combating and "vanquishing the enemy which has already gained a foothold."

What is food? Anything which when taken into the body serves to build up the tissues, or to supply heat or energy. Definitions might be multiplied, but the one given will answer our purpose. A food, then, serves one or more of four purposes: 1, to build up normal structure; 2, to diminish the waste of tissue; 3, to supply the waste of tissue; 4, through combustion or oxidation to liberate energy. Any substance, therefore, which performs any one or more of these offices is a food. It may do it to a considerable extent and consequently have great food value, or it may do it to but a slight extent, and have but little food value. In order to

know that any given article has great food value or not, a scientific knowledge of the composition, digestion, absorption, and assimilation of food material is necessary.

Taking up the four different food requirements as above outlined, it may be said with reference to the first, that in the absence of marked fever or other complication, especially of the digestive organs, most patients have sufficient appetite and digestive powers to maintain the general nutrition in a fairly satisfactory state. Under these circumstances there is no warrant for interfering materially with an ordinary diet, of well-balanced mixed foods, provided that it be of good quality and well prepared.

When we consider the second and third propositions presenting undue waste, and supplying excessive tissue waste, we are confronted by a more serious problem. As a rule, if a patient without much fever continues to waste, such a fact can oftenest be explained by diminished assimilation. The fatty tissues are consumed first, after which the muscles are attacked. With rest and open air, the diet in these cases becomes one of the greatest problems. We may have to build up muscle tissue as well as to simply add fat to the body. To this end all classes of food must be well represented, and as Harris says the proteids should preponderate. That meat diet is important is easily seen from the fact that the pendulum has swung to the extreme of an almost exclusive meat diet or "Zomotherapy," as it has been called. Certain others have seen in the egg the symbol of life, and have established an almost equally exclusive egg diet. Milk has found equally enthusiastic adherents, and again it has been suggested that the salvation of the patient consisted in frequent ingestion of five or six meals a day. Frequency of meals and regularity in administration are undoubtedly of great consequence. While it is well to cater to the patient's desires, and may be necessary to do so, by giving them what their appetite suggests to a certain degree, still we must not lose sight of the fact that the food must contain the elements of nutrition in proper proportion.

Since the careful preparation of food is recognized to be of vital importance to the invalid, and especially to the tuberculous patient, where so much depends upon the amount and quality of the food which can be assimilated, the food should be prepared in such a manner that patients derive the greatest amount of nutrition from its consumption, and also in such a way as to make the least possible tax upon the digestive system.

It is not only essential that the food served be nutritious and wholesome and palatable, but also the service be dainty and aesthetic. Neatness and attractiveness go a long way toward making food palatable; therefore this should be taken advantage of.

The appetite must be encouraged in every way possible. Sometimes an appeal through the senses brings about desired results. The sense of sight, by having a well furnished dining room, and tables artistically arranged, and when possible decorated with flowers. To the sense of hearing, by music. Let the music be of such a nature as to appeal to the patients, making them forget self and putting all into a happy frame of mind. To the sense of taste, by having the food well prepared and daintily served. To the sense of smell, by having well savored food.

In selecting a menu, monotony must be avoided. My experience has been that a higher standard of efficiency is attained and maintained by a variety of food, a change being made from one kind of meat to another, from one kind of vegetable to another, always, however, giving the body the food-stuffs in proper proportions to supply its demands. Every meal must therefore be the result of the concurrence of all kinds of practical and scientific considerations.

It is not enough that the different classes of foods are represented, but the proportion of the ingredients must be proper. It is quite possible that any given food may have all the required constituents, but there may be too much of one, and too little of another. Lack of one nutritive constituent is probably commoner than a deficiency of all, or in other words, an ill-balanced diet is more frequently met than one which is deficient all around.

The conclusion must be that a mixed and well balanced diet is the proper basis for feeding. For the nitrogenous supply we must rely upon meat, eggs, milk and leguminous plants. Vegetables and fruits are served in sufficient amount to keep the diet well balanced.

Fat seems to be of special value in the diet of phthisis, but frequently we find that fats are very obnoxious and repulsive to tubercular patients. But by giving them the more easily digested forms such as cream, butter, bacon and nuts, and combining them with other foods in such a manner that they do not realize they are getting fats, we have no difficulty in persuading them to take a sufficient amount. Cakes and pies are omitted from the dietary.

The appetite is no reliable criterion as to the amount of food that may be taken and digested by the patient. If the digestive organs are not impaired, there is as a rule no difficulty in getting the patient to gain in weight. The tuberculous individual who has a poor appetite, or a disgust for food, can usually digest much more food than he is willing to eat. His digestive powers are much better than his appetite would indicate, and it is surprising how much food can be taken and digested by one who spends the greater portion of his time in the open air, even though not exercising.

At the Ottawa Tent Colony each patient is expected to take daily from two to three quarts of milk and from six to twelve raw eggs, in addition to the three regular meals.

The following sample menu will illustrate the composition and balance of ration composing the meals:

BREAKFAST, 7:30.

Oranges.

Oatmeal and Cream.

Beefsteak and Potatoes.

Bread and Butter.

Milk.

Graham Gems.

Coffee.

LUNCH, 10.

Milk.

Raw Eggs.

Nuts.

DINNER, 12.

Roast Beef.	Potatoes.
Cream Corn.	Buttered Peas.
	Olives.
Rice and Dates with Whipped Cream.	
	Milk.

LUNCH, 3.

Same as above.

SUPPER, 5:30.

Oyster Stew.

Baked Potatoes.	Egg Souffle.
	Fruit.
Tea.	Milk.

LUNCH, 8.

Milk.	Raw Eggs.
Nuts.	Fruit.

The following are some of the gains in weight, which may be accepted as one of the most marked evidences of improvement. One far advanced case, whose weight on admission was 84 pounds, gained 30 pounds in 140 days. Another of the same class, whose weight on admission was 103 pounds, 24 pounds in 85 days. Another incipient case, 13 pounds in 21 days. A second stage case, 10 pounds in 10 days. Another, 16 pounds in 28 days. It is nothing unusual for patients who are doing well to gain from 3 to 6 pounds a week, especially during the earlier part of the treatment.

The principles of food reform are basic and fundamental to all physical, mental and moral progress. This statement may seem an exaggeration, but it is based upon the physiologic fact that our bodies are made up of what we eat. Both structure and function are dependent upon nutrition. It is gratifying to know that not only physicians and intelligent laymen, but even military and governmental authorities are giving increasing attention to questions of nutrition as related to various phases of human welfare.

It has been said that hygiene and diet are the foundation stones upon which may be constructed successful therapeutics in the cure of tuberculosis. These are not the only factors in the restoration, but they are so much, and embrace so much, that without them our best efforts avail nothing. The

assertion has been made "that without special care in hygiene and diet there is no cure for the tubercular, but that with this care things are possible."

Discussion on Miss Sater's Paper.

Dr. J. W. Pettit, Ottawa: It is at my suggestion that this paper appears on the program, and it is for the purpose of emphasizing the necessity of the balanced ration in the treatment of tuberculosis. The term "balanced ration" is one that is not found in the text-books. It is a military term, and applies to the feeding of soldiers. It occurred to me that inasmuch as the feeding of tuberculosis patients is such an important matter it should not be left to chance. We all know the importance of technique in surgery. I think technique is quite as important in the treatment of tuberculosis. In fact, it is important in anything, if you expect to get results.

The tendency at the present time is to be indifferent to methods, because the agents used are familiar to everyone. Now, that is the rock we are likely to split on in the treatment of tuberculosis. There is too much of a tendency to believe that any old thing is good enough for the tuberculosis patient. That all that is necessary is to bring in the fresh air, food, rest, and exercise. True, that is all there is to it, but you have not said all when you stop there, and that is not where we should stop.

If diet is of importance in the treatment of tuberculosis, and, I think, that it will not be questioned that it is, then, it should be given in a scientific way. We all know that we cannot follow the whims and caprices of patients in anything, especially not in the matter of diet. What they want to eat is not always what they ought to eat. An ordinary patient cannot digest very much more than the appetite calls for. That is one thing that we must bear in mind. Therefore we must supply for them the elementary principles of food, the essentials, so as to not have one over-balance the other.

The diet should be made up by one who has a scientific knowledge of food values, and with that end in view, I introduced domestic science into this work. Miss Sater is a graduate in domestic science; was a teacher in the Lewis Institute, in Chicago, a demonstrator at Farmer's Institutes throughout the country, and she knows the food values; knows what they are. She figures out a bill of fare for seven days, 21 meals. She has, first of all, reference to the value of each food she uses; then, its palatability, and the other things she has mentioned in the paper.

Each day, every patient who can take the full diet, gets one hundred per cent of everything he ought to have. Of course, the patient who cannot use that, does not get it. There is this about the diet we give them; although we are feeding them six times a day, yet they do not tire of what they get. The patients who have been there three months will eat just as readily as those who have been there only a week.

Now, all you who have ever boarded, know that you get tired of the best table you sit down to, no matter how good the food is. That, to my

mind, means that you get tired simply because you do not get a balanced ration. The reason our patients do not tire of their diet is because they get everything they need, almost to a mathematical nicety.

If we are going to lose sight of the importance of food in the treatment of tuberculosis, we will lose sight of one of the cardinal principles in the treatment of this disease. I do not wish to be understood as depreciating the value of fresh air, but there is too much of a tendency just now to believe that all we must do to cure a patient of his tuberculosis is to have him sleep out in a tent or on the porch. Of course, that is important; but as between good food properly prepared, and a fairly good air, I would say that good food is more important. I would rather undertake to treat a case of tuberculosis in the heart of Chicago, where the air is bad, with good food, than to put out anywhere on a prairie or plains of Illinois, give him all the fresh air possible, and cheapen the food or have it prepared unscientifically. I believe, that is not too strong a statement to make.

The tuberculosis patient has little enough chance at best. Let us not minimize anything that makes for his welfare, and there is certainly nothing more important than food.

Dr. A. C. Croftan, Chicago: I consider the position taken by Dr. Pettit to be a very strong one in the treatment of tuberculosis. Fresh air can be secured in any back yard; but scientific dieting can only be carried out in a well regulated institution. Those of us in Chicago who try to have even the simplest dietetic determinations made in our hospitals know to our sorrow how difficult it usually is to have them properly carried out. Nurses, internes, the patients and the management all seem to conspire against accurate work.

I should like to ask Miss Sater how they avoid the error of routine in Ottawa. If I understand her correctly the food values, presumably expressed in calories, are calculated. Is that calculation based on normal standards? Is it based on standards for febrile patients? Or do you individualize in each case as you should?

Let us say that you give a patient a certain amount of nitrogenous food and that from this you calculate the nitrogen intake. The nitrogen output in the urine and the faeces should then correspond to the nitrogen intake if the patient is to be in nitrogen equilibrium, i. e., if adequate nutrition is to be maintained. In dealing now with cases that are febrile and that consequently, as we know, burn up an abnormal amount of their own tissues, you must of course, administer more nitrogenous pabulum than to a normal subject to maintain nitrogen equilibrium.

Do you determine all these factors or do you stuff febrile patients at random with nitrogenous food relying more or less upon guess work whether they are getting enough, too little, or too much?

I do not know which would be the greater danger to avoid, the under-feeding or the over-feeding of many of these cases of tuberculosis.

I should like to ask Miss Sater whether these people, appetite or no appetite, fever or no fever, dilated stomach or disordered liver or deranged kidneys or what not, are all placed on forced feeding.

May it not be extremely dangerous in certain cases to overtax the motor powers of a dilated stomach, or the eliminating powers of diseased kidneys, or the disintoxicating function of an insufficient liver by giving too much albuminous food? Are you not afraid occasionally to overtax a straining cardio-vascular system with your excessive liquid intake when you give so abundantly of milk?

What I am getting at is: Do you find it possible and do you take the trouble to individualize? I consider that exceedingly important and I fear that unless this is done that the benefits derived in single cases from forced feeding may well be neutralized in others by the harm accruing from injudicious stuffing.

What I am saying is not advanced in a spirit of criticism, for I admire immensely the work that has been accomplished so far by Dr. Pettit and his co-workers with scanty means and scanty support. I think it is most commendable that so many progressive things are being attempted so soon after the establishment of the Colony. All I want to know is what you have so far found to be practical of execution, realizing all the time that you are fully aware of what the ideal might be and what should be done on theoretical grounds.

I congratulate Miss Sater on the able presentation of her report and Dr. Pettit on having so enthusiastic and competent a co-worker to help him carry out his dietetic ideas.

Dr. Fenton B. Turck, Chicago: The subject of dietetics as applied to tuberculosis is a similar problem to that we have to solve in many other wasting diseases. The great trouble is that we are not educated sufficiently and have no knowledge of dietetics. The farmers are better posted on how to feed their hogs properly than we are on how to feed our patients, because the United States Agricultural Department has established laboratories throughout the States, and they know not only how to feed hogs, but how to feed them properly in the various sections of the country, because there is variations among hogs. The reason why Americans have exerted themselves so much in this direction is because a hog has a greater marketable value than a human being. A hog can be sold on the market, whereas a human being cannot.

This is a great problem, and this little institution established by Dr. Pettit deserves great credit for having established, in the face of this opposition today, a place where this question is being solved. This is a movement in the right direction. It is a little laboratory carrying on investigations in dietetics, and they have presented some points of great value,—the value of feeding and the manner of feeding.

I would like to mention only one point in connection with meat, for meat has in it not only nitrogen, but something else, and that is the biologic element, the fighting of toxins. Meat

is one of the strongest and best elements we have at our command for increasing the antibodies. The trouble is that as soon as certain quantity is used, meat becomes a toxin. Therefore, too much meat should not be given. The extractives are toxins and they have no food values whatever. If you remove all the bouillon from meat you have left the nutritive part which you cannot remove by boiling. The only way is by comparison and cold. The meat is ground up fine and put into compress. The removal of forty per cent of water and the extractives increases the food value of the meat and lessens its toxicity.

If this meat is put into an autoclave at fifteen pounds pressure, you can remove all the extractives, and besides that the tissue is transformed into gelatin. That is the important thing in digestion because we can feed large quantities, 200—250 grammes, and that without any disturbance whatever and without producing any toxic effect, and in it, we have a very valuable aid in fighting the toxic condition we find in tuberculosis and many other conditions.

This is an important practical point, and is also of scientific value in that we have to increase the nitrogen intake and output and avoid the toxins as well as fight them. The digestibility is an important thing for the motor power of the stomach, and usually in this condition, it is impaired, so that the stomach is incapable of emptying itself in the necessary time. Perfect motor power is necessary for good digestion.

Dr. J. W. Pettit (closing the discussion for Miss Sater): It was extremely difficult for me to prevail upon Miss Sater to present this excellent paper. In common with other really capable people she is too modest to take part in the discussion, therefore I will close for her.

The purpose of Miss Sater's paper is to emphasize the value of food in the treatment of tuberculosis, and the fact that the diet of the patients should be prescribed scientifically and not left to chance. It is not pretended that this can be done with mathematical exactness, but the nearer we approximate a mathematically balanced ration the more nearly do we conform to scientific principles. In doing this we must keep in mind all the other factors which enter into the question of nutrition which must not be ignored.

There is a tendency at the present time to lay too much stress upon fresh air and too little on food. We cannot have too much fresh air, but if we place our sole reliance upon this valuable agency we will fail in many cases where a proper attention to diet would have insured success.

In answer to the many pertinent questions which have been asked, my reply is that we are not in a position just now to answer them. You must bear in mind that in the short time we have been at work it has been impossible for us to pay strict attention to the smaller details. We have only been giving attention to the prime essentials. You can ask us many questions which we cannot answer, and all of you tell us

many things we do not know. We crave the indulgence of the profession in the many imperfections of our work. We are doing the best we can with our limited knowledge and the very meager equipment at our command. If this paper shall serve to bring the importance of diet in the treatment of tuberculosis more prominently to the notice of the profession, it will have accomplished its purpose. If we fail in this particular we will lose sight of one of the cardinal principles in the treatment of this disease. Patients suffering from tuberculosis, especially in the advanced conditions which we are now receiving them, has little enough chance at best. Let us not minimize anything that makes for their welfare. There is certainly nothing more important than food.

THE TREATMENT OF ERYSIPELAS WITH ISUARDIA PALUSTRIS— MARSH PURSLANE, WITH REPORT OF CASES.

BY H. C. MITCHELL, M. D., CARBONDALE.

When Solomon said, "There is nothing new under the sun," I am inclined to think that he spoke better than will at first appear.

When an all-wise Creator created man, He provided for him all things necessary for his use. There was nothing created that had not its use, when that use could be determined. When God created a poison, He created its antidote, and often placed them side by side.

While the treatment of Erysipelas with Marsh Purslane has never been given to the medical profession at large, yet it is an old remedy, and was given to me by my father, who practiced medicine in Southern Illinois and Indiana for nearly 50 years.

The remedy had been given to him by his preceptor, who practiced medicine in Indiana as early as 1835. Where he obtained the remedy I do not know.

I am unable to refer you to any literature on this subject, as I have examined a number of works on materia medica, and have conferred with several gentlemen of national reputation on materia medica, such as William E. Quine, of Chicago, and H. C. Wood, of Philadelphia, and they say they have never heard of the drug.

I shall therefore be compelled to give you my personal experience with the remedy, and that of my brother, Dr. J. H. Mitchell, of Mt. Vernon, Ill., who has kindly given me reports of some cases, treated by him, which I have incorporated in this paper.

I shall probably not be able to describe the plant so that you would be able to recognize it at sight. The name of this plant as given to me by my father was Walink, or Water Purslane.

It grows in great abundance in Southern Illinois, in marshes and along the edges of ditches and ponds that are drying up. It is described in the botanies as *Isnardina Palustris*, Marsh Purslane. The stem of the plant is procune, bent or floating, smooth, branching and rooting at the joints where near touching the ground, succulent; leaves opposite, and about one inch long, oval or spatulate, narrowed at the base into a short petiole, smooth, margins entire. The flowers are small, almost inconspicuous, solitary and in the axils of the leaves; of a dull-reddish color, produced in early summer, followed by a small four-sided capsule. It does not belong to the ordinary purslane family, as its name would imply, but its relatives are the evening primroses.

I have never used the remedy except locally. I gather the plant in the green state, and bruise stem, leaves and all, and apply in the form of a poultice to the erysipelatous surface. The effect is certainly magical. I have often used the remedy in the worst forms of the disease, where the head and face were swollen out of all semblance to a human head, the eyelids swollen so that there was only a line where the eyes should be, the nostrils so swollen that the patient could breathe only with the greatest difficulty, the maximum temperature running as high as $105\frac{1}{2}$ ° F., the patient often delirious, tossing from side to side, suffering with severe pain and burning, and unable to rest or sleep in any position. The remedy would not be applied more than a few hours until the pain and fever would begin to subside, and in a short time the redness would begin to pale, the swelling diminish, and the patient would convalesce in a very few days.

Case First.—Soon after my graduation from Chicago Medical College, in 1879, I was practicing medicine (or wanting to practice) in Southern Illinois. A farmer came to my office one morning and said that his little girl, three years old, was suffering with a swelling in her face, which he believed was erysipelas. I put some remedies into my medicine case and sallied forth to meet the enemy, feeling confident that when I did, I would conquer him in a very short time. Arriving at the house I found the little patient suffering with erysipelas of the face. The eruption covered the nose and a portion of the forehead, the temperature $101\frac{1}{2}$, otherwise she was fairly comfortable. I prepared a wash consisting of acetate of lead, opium, etc., and directed five drops of tincture of iron to be given internally every three hours. On visiting the patient the following day I found the disease had spread over nearly the entire face, temperature 103, patient complaining of burning, and quite restless. The third day the disease had extended over the entire head and face, temperature 105. By the fourth day the swelling had extended to the neck and front of the chest; the eyes were completely closed, nostrils and lips so swollen that it breathed only with the greatest difficulty, temperature $105\frac{1}{2}$, patient delirious, restless, and rolling its head from side to side, having slept none for more than 36 hours. I had consulted my works on practice and exhausted all my remedies for the treatment of erysipelas, and yet my patient continued to grow worse; so, in my desperation, I called into consultation my father, who had retired from practice several years previously. After consulting with him, he informed me that if I would get some Marsh Purslane and bruise and apply it locally as a poultice it would soon effect a cure. The purslane remedy was applied, and I left a call for the following day. To my surprise, the father of the child was at my office the following morning and said it would not be necessary for me to visit the case, as the weed the "old doctor" had prescribed had nearly effected a cure. He said in about two hours after applying the poultice the child got easy and went to sleep and had slept ever since.

The fever was gone, and the redness and swelling had rapidly subsided. The result was the case went on rapidly to convalescence. When the man came to settle his bill, he said he "thought I had better forget what I had learned about erysipelas at college and take a few private lessons from the old doctor."

I practiced medicine for over eight years in that same locality and during that period I treated a number of cases of erysipelas, some of them being of a severe type, and nearly all of them were treated with the Marsh Purslane, except such as occurred in winter and the early spring when the weed could not be obtained. In all the cases the results were equally as good as in the case reported, in fact, I learned to rely so fully on the remedy that when I was called to treat a case of erysipelas (and especially one in which the pay was at all doubtful) I would send them for the Marsh Purslane, and, so far as I know, it never failed to give entire satisfaction.

When I moved to my present location, more than 17 years ago, I was unable to find the weed, and for a number of years I used the remedies prescribed in our works on practice.

Case Second.—In July, 1899, I was called to a neighboring town in consultation, to see a man with traumatic erysipelas. He had been cut across the leg with a sickle, and erysipelas had supervened. He had been suffering with the disease for about twelve days. It had gone entirely up the leg and body, and across to the opposite side, involving the genitals and gluteal region, and down the opposite leg to the knee. The parts were enormously swollen, and the man's condition extremely critical. It was plainly evident that unless he could get relief soon he would die. After I had finished my examination of the case, a good "old mother of Israel" came up and introduced herself, and said, "I used to know your father." She said, "I told the attending physician and family, I know a weed that, if applied to the erysipatous surface, would cure it. I saw your father use it once in a case, and have used it many times since, and it never failed to

cure." I had her describe the plant, and felt sure that it was the Marsh Purslane. I requested that the attending physician try it, which he did. The doctor afterward moved west, and I never saw him for two years. When I did he told me that after applying the remedy, there was a marked improvement inside of five hours, and that the case went on to rapid convalescence, and in three or four days he had only the suppurating wound of his leg.

Case Three.—During the month of August, 1904, I was called in consultation with Dr. Etherton, of Carbondale, to see a child, about three years old, suffering with erysipelas in the leg and arm. The disease in either case began near the hand and foot and spread rapidly toward the body. The limbs were enormously swollen, the temperature often running to 105 F., the average temperature being about 103. The case had contracted the disease nearly one week prior to the time I was called. The doctor had pretty well exhausted the usual lines of treatment. We continued to treat the case together for three or four days, but it grew rather worse instead of better. The disease extending gradually upward toward the body. The case grew weaker from day to day, until our patient was well nigh exhausted and the family greatly alarmed. I suggested that we try the Marsh Purslane. The father, being a man of means, said for us to spare no pains or expense in procuring any remedy that we thought would relieve it. I accordingly wired for the Marsh Purslane, and in 48 hours had a good supply. The first poultice was applied about 2 o'clock p. m., and at 6 o'clock of the same day I was called to the phone by the mother of the child, who said it grew easy in about three hours after applying the remedy, and that it had slept continuously. The redness and swelling had greatly diminished and the case was markedly better in every way. This case convalesced rapidly and was well in a few days.

Case Four. During the time I was treating this case I was called to a neighboring town in consultation with Dr. H., to see a case of erysipelas that had extended entirely over the left leg and thigh and left side of

the abdomen. Parts were greatly swollen and temperature running high, as in the other case. This was a case of about nine or ten days standing. The Purslane remedy was applied with equally as prompt relief as in the other case.

Case Five.—This case I have reported because I used the remedy in the form of a decoction. This patient was aged 65 years. On February 2, 1905, he was attacked with la grippe, which confined him to his bed for about one week. At the end of that week he did some work and underwent some exposure that threw him down again with all the concomitant sequela of grip. He had a hard chill that required nearly two hours to bring about a reaction, the temperature running to 105 F. These rigors occurred every 24 hours with greater or less severity, and sometimes two in 24 hours. The temperature never falling below 102 for more than 10 days, at the end of which time I called in consultation Dr. J. L. Wiggins, of East St. Louis, and Dr. McAnally of Carbondale. They agreed with me in the diagnosis, viz., that it was due to toxins in the blood, due to la grippe, that was affecting the secretory and glandular organs, such as the liver, kidneys, spleen and pancreas. The fever continued uninterruptedly for about six weeks, when he became badly jaundiced. The common duct was probably entirely closed for about two weeks, as the alvine evacuations showed no coloring matter of bile whatever. The urinary secretion was, during that period, heavily loaded with bile. At the end of about three weeks, the patient was greatly emaciated and very weak. He contracted erysipelas of his face. The face and head became greatly swollen, the temperature running as high as 104, eyes completely closed. I tried the usual remedies for three or four days without any apparent improvement, when I remembered that I had gathered a quantity of Marsh Purslane, which was then in a dried state, to exhibit at this meeting of the Association. I directed the nurse to make a decoction of it and apply it on cloths, which she did. Case responded to the treatment in a very few hours and at the end of 48 hours was almost entirely relieved.

Case Six.—C. R. W., trainmaster I. C. R. R. Co., contracted erysipelas of his face April 20, 1905, the disease first making its appearance behind the right ear, and in less than 48 hours had spread over the entire face and head. The minimum temperature being 101 2-5 F., while the maximum was 104 3-5. The treatment in the beginning consisted of cutting the hair short, scrubbing the skin with sterilized water and soap, bathing the surface with a 1-3000 bichloride of mercury solution, and afterward applying cloths saturated with a solution of chloride of zinc. For internal administration I gave him tincture of iron in 25 drop doses. The above treatment was persisted in for about 48 hours when there was no improvement. I then painted the skin with tincture of iodine and applied a solution of acetate of lead and opium. At the end of 72 hours of this treatment the case seemed much better and the eruption nearly gone, but in less than 24 hours the eruption had reappeared on the nose and forehead, and in a short time had covered the entire head, neck and a greater portion of the back. In about four days the rash had pretty well faded from the face and neck, but had covered the entire back, gluteal region and arms. Feeling somewhat discouraged, I concluded to try the Marsh Purslane. After driving over three or four miles of swampy country, I found just enough of the weed to make one poultice. The poultice was applied about 8 p. m. and remained on till the following morning, when I found the temperature normal, the eruption had stopped spreading and the redness and swelling greatly reduced. Using the patient's own expression, he said: "I went to sleep and slept like a baby all night, and this morning I feel like a winner." Having no more of the Marsh Purslane, we were compelled to resort again to other remedies. Fifteen hours after leaving off the Marsh Purslane he had a chill, the temperature running up to 105, the eruption spreading rapidly over the sides and front of the chest. Inside of 36 hours had covered the entire body and arms. By this time, however, I was able to get enough of the Purslane to make two poultices, which I applied for 12 hours each. At

the expiration of that time the temperature was again normal, the spreading had stopped and the rash and swelling rapidly subsided. The Purslane remedy being again exhausted, I washed the skin with a bi-chloride of mercury solution and applied a poultice, consisting of ichthyol and antiphlogistine, the case going on to convalescence in four or five days.

The test of the remedy in this case seems to me to have been a severe one, but one in which the Purslane remedy was not found wanting.

I have several other cases reported by my brother, Dr. J. H. Mitchell, that will be published with this paper, but as my time has expired I will not read them.

I want to say in conclusion, that I consider Marsh Purslane by far the best remedy I have ever used for erysipelas, and if you should ever have occasion to use it, I feel sure you will not be disappointed in the result. This remedy should be placed in the hands of some of our manufacturing chemists so that its virtues might become known and prepared in various forms for our use.

Cases Reported by Dr. J. H. Mitchell, Mt. Vernon, Illinois.

Dr. Mitchell says: "I consider Marsh Purslane a specific in the treatment of erysipelas and poisoning by the Rus-Toxicodendron (poison oak) when properly applied."

Case First.—In the year 1875, some time during the early autumn, my father and I were on our way to attend a man that had fallen and broken his arm, when we were met by Mr. D., who asked me to visit his wife, who was suffering with an attack of erysipelas of her face and head. He stated that, in his opinion, she had the disease very badly. While I was telling him that it would be impossible for me to see her that day, my father, who was a very close observer of the habits of plants and animals, had been investigating our surroundings. The place where we had stopped was low and marshy. He told Mr. D. to get out of his buggy and get a quantity of the plant, which he pointed out to him, take it home, wet and mash it, and put it over his wife's face. He also told him

if his wife was not very much better, to report the following morning, and I would see her. He did not report until the second day, when he stated that she was about well, and that the application had given almost instant relief. No further treatment in this case being deemed necessary.

Case Two.—This case was not so specifically successful. Some time in June, 1880, I was called to see a Mrs. W., aged about 50 years, who was suffering with erysipelas of one of her legs, extending from the foot to the trunk. I treated her heroically and, as I thought, scientifically, for one week, exhausting the whole plane of therapeutics, as it appeared to me, when I thought of Marsh Purslane. I directed the husband how to procure, prepare and apply it. This treatment was persisted in for 24 hours, but because the case was not entirely cured in that time, and the remedy being of something so cheap and common, my services were dispensed with, to my entire satisfaction, as both the patient and sanitary surroundings were of the poorest.

Case Three.—May, 1881, I was called to attend Miss Y., aged about 12 years, who was suffering with erysipelas of the head and face. The eyes were swollen and completely closed; the neck and chest were also involved. I treated her for about one week, as I thought, correctly, without any apparent benefit. The disease kept invading new territory, when I decided to try the Marsh Purslane. This was obtained and applied as in the former cases. When I visited the patient the following day, I found her greatly improved. She had rested and slept from the time of applying the remedy, a thing she had not done since she was taken sick.

This family was subject to erysipelas, as some one of the family was a subject to the disease almost every spring. After this case, however, the father was the attendant when any member of the family was stricken with the disease. On the first appearance he would resort to the Marsh Purslane, and, as he frequently told me, with entire success.

Case Four.—July, 1881, was called to J. S. H., aged 82 years, who claimed to be an eclectic physician. He had an indolent ulcer

of his leg that had given him trouble for a number of years. This became infected with erysipelas. When I saw him he had treated himself for a number of days. The leg was swollen to twice the size of its fellow, and the disease extending entirely to the body. Again I resorted to all the remedies that seemed to me to be indicated, but the patient grew constantly worse and the disease continued to spread to new territory, until the family, and even the medical attendant, began to anticipate the death of his patient. As a drowning man will grasp at a straw, we welcomed the thought of trying the virtue of Marsh Purslane. I directed the son of the patient to come with me to a place where I had seen the plant growing. We gathered a market basket full, took it home and applied it as directed. The patient soon became easy and sleep supervened, lasting for all of 24 hours. When I heard from him two days later, he was almost well, and only wanted a fresh supply of the remedy. Without further attention from me, he soon recovered. Upon being interrogated as to what he would do in the event he should ever meet up with another case of erysipelas, he replied that he would send for the Marsh Purslane at once.

Discussion on Dr. Mitchell's Paper.

Dr. J. M. G. Carter, Waukegan: I have been delighted to hear this almost epoch-making paper. I am especially pleased to note that at this meeting, as well as at others lately, there has been a tendency to turn from the mineral remedies toward the vegetable kingdom for new remedies or for a better understanding of the old. During the last few years we have been drifting almost entirely toward chemical formulas for new remedies, and it is certainly very gratifying to learn that we are coming back to the old well-tried vegetable remedies for our therapeutic effects.

Dr. Edw. Ochsner, Chicago: In discussing the subject of erysipelas, one must make this first postulate. Erysipelas is a self-limited disease, and, providing, the physician or surgeon does not injure the patient, that patient is almost sure to get well. Physicians and surgeons have done more harm than good in the treatment of erysipelas. I think that statement is perfectly correct. Personally, if I were to have erysipelas again, as I once had it, I would rather have no physician attend me than be subjected to the ordinary treatment that is given in cases of erysipelas.

Ten years ago I had the exceptional opportunity of treating 47 cases of erysipelas in the

course of six weeks. The Cook County Hospital, at which I was then an interne, had an epidemic of erysipelas, and I had the opportunity to observe these 47 cases. I tried all the remedies that were mentioned in the literature, except those that seemed too irrational and too violent. I could not persuade myself to inject sulphure or tincture of iron or carbolic acid into the margin of the lesion, but I tried all the other remedies that seemed less harmful. Iodine was the common remedy then in vogue, but the patients all had a chill immediately after using it, and so I stopped its use. I finally came to the conclusion that if one will not do absolute injury, we should relieve the intestinal tract of fermentative products and apply some simple poultices, and your patient will get well always and in a great hurry.

I analyzed these cases and found that the average duration of the disease, if not too vigorously treated, was 96 hours. I had some cases that were desperately ill. I had one, a medical student, who had a post-mortem sepsis of the finger before he had the erysipelas. His temperature went up to 106° F., and remained there for two or three days, but as we concluded not to kill him, he got well. If I had decided to use all the then used remedies, the young man would probably not have gotten well.

I have since had an opportunity to treat from three to five cases a year for the last ten years, making, probably, 85 or 100 cases in all, and I lost only one. He died as the result of a compound fracture of the skull.

I think the virtue of the doctor's treatment is that he does not do any harm. I apply an alcohol boric acid compress, not because there is any virtue in it, but because it prevents the patient from doing anything that will harm him. The mere fact that there are hundreds of cures for erysipelas is proof positive in my mind of two things: That there is not any one that amounts to anything, and that if you give the patient half a chance, he will get well anyway.

Dr. A. W. Baer, Chicago: Boric acid and alcohol applied to an inflamed surface is not harmless.

Dr. W. C. Abbott, Chicago: I have been very much interested in this paper as well as in the discussions, especially that by Dr. Ochsner. You can help erysipelas, and you can hurt erysipelas. Erysipelas is a mixed infection, a germ infection surrounded by inflammatory conditions, and the whole thing is an attempt of nature to get rid of trouble. As Dr. Ochsner very properly pointed out, if you go in unwisely without studying the disease you expect to treat, without due regard for what is and what you are going to do and ought to do, you are going to do more harm than good.

Perhaps it is true that erysipelas is a self-limited disease, because usually the disease disappears before the patient dies, but the man who knows his therapeutics, who knows what will do harm and what will do good, can help that self-limited disease to limit itself quicker than it otherwise would.

I would like to ask Dr. Mitchell whether he knows the special principle in this marsh purs-

lane which makes it better than the hot-water cloth or any other form of poultice.

Then again, you can do something through the circulation. You have two conditions there, to which, I think, you will all agree. When the inflammatory condition is set up and infection goes on, and you overcome the general condition, you come to the matter of a very serious local condition, and in that way you can help nature.

Years ago able men, in discussing and hunting for remedies of this class and character, hit on the old fluid extract of Jaborandi and many men in this country would stand up, if here, and vouch for the value of Jaborandi in erysipelas conditions, given to the full physiological effect. It has since been learned through study in isolation of active principles that jaborandi depends for its efficacy on the contained pilocarpin, and that the other principle, occurring in varying quantity, jaborine, is one of the detrimental substances of the drug. Pilocarpin will drain away the congestion, but behind it all is recuperative power and that cannot be given by any sort of therapeutics. Take away from the patient his resistance, and reduce his strength to get well and you do him harm. We must only do good, not harm.

I do not want you to feel that the whole story is told when the surgeon says you cannot do anything for erysipelas. He is right and he is wrong. Both of us together have given you about the right idea.

Dr. George F. Butler, Chicago: I wish to thank Dr. Mitchell for presenting such an excellent paper. We all know that Dr. Mitchell is a careful and able physician, and his statement of cases treated by *isnordia palustris* seems to show that benefit is to be derived from the use of this drug.

It has been the tendency of the regular profession, and especially the surgeons, to oppose any vegetable remedy. There is not a single indigenous remedy today that was introduced by us. They have been introduced by the eclectics and we have been forced to accept them. Even such a good remedy as cinchona had to fight its way against opposition of the conservative members of the profession.

We should welcome a remedy which seems to be as valuable as this one, and we ought to try it. No man should stand up and say that this is not good for erysipelas unless he has had some experience, and I, personally, want to thank the doctor for bringing the matter to our attention.

Dr. Wm. F. Waugh, Chicago: There is one material point in Dr. Mitchell's paper which has not been noticed and which ought not be allowed to go by, and that was the case in which the application of this remedy was followed by a distinct improvement. When the remedy was discontinued, the erysipelas reproduced itself, and a re-application was again followed by improvement.

This is not the ordinary or common course for erysipelas to pursue, and could hardly be attributed to the natural course of the malady. A similar phenomenon has shown itself with a

number of cases I have treated with pilocarpin. I have given pilocarpin until a facial erysipelas was reduced; then stopped the pilocarpin, and the erysipelas reproduced itself over half of the face. I repeated this not once, but two or three times until I was satisfied that the remedy actually controlled the disease and that it was not the natural sequence of the eruption. This being done with pilocarpin, there is no reason why it should not be done with other remedies, such, for instance, as Dr. Mitchell presented to us.

Dr. M. S. Marcy, Peoria: Like Dr. Mitchell, when I left college I started out to cure everything. The first case of erysipelas I had my wife told me of a remedy her mother used to use—pounded cranberries used in the form of a poultice. That remedy has never failed me, and I use it to this day. There is nothing that will do erysipelas more good, except Dr. Mitchell's remedy, than pounded cranberries.

Dr. Mitchell, (closing the discussion): Dr. Ochsner's theory of erysipelas reminds me very much of a story I once heard. A man bought a fine gun on trial. He took it home and shot it a number of times, but it didn't shoot well at all. So he took it back to the merchant and said to him, "Theoretically your gun is all right, but practically it isn't worth a d-m." Now, Dr. Ochsner's theory of erysipelas may be all right, but practically we all know it will not hold water. There is not a physician here who has treated many cases of the disease but knows that it will not terminate in resolution in from seventy-two to ninety hours. The cases I have reported, have every one of them continued for more than a week and some of them for three weeks, and would doubtless have lasted much longer, had they not been treated with the Marsh Purslane. I do not understand why the streptococcus-erysipelas should be any shorter lived, or self limited in its action than the streptococcus or staphylococcus, and neither do I believe they are.

If Dr. Ochsner had to go into private families to treat his cases of erysipelas, as most of us do, instead of having them in a hospital where he can have complete mastery over them, and he should treat them on the hypothesis that the disease was self limited, and required no treatment, he would be treated to the spectacle of seeing most of his patients under the care of the "other doctor" in a very few days. It occurs to me that as erysipelas is a germ disease, and the germ is in the skin where it can easily be reached, that the only rational treatment is to find some remedy that will destroy the germ, and not leave the patient to the mercy of the disease, and taboo all treatment. If we should do this with any other disease, we would be derelict in duty to say the very least. I had no thought but this paper would be attacked as has every other good thing in medicine and surgery. Some one asked what I considered to be its therapeutical action. I think it has anti-germicidal and anti-phlogistic properties, and is slightly astringent, since it relieves so quickly the pain, fever, burning and eruption.

THE OPTIONAL DISEASE.

BY HEMAN SPAULDING, M. D., CHICAGO.

So far as known, smallpox originated in eastern and central Asia, in India and China. Mention is made of the disease as existing in Europe as early as 570. No description of the disease was made until the year 900. In that year Dr. Rhazes, an Arabian physician, wrote a very good description of the disease. The disease did not find its way to Great Britain until the year 1241. Historically considered, smallpox surpassed in importance all other epidemic diseases. None of them has pursued and chastised the human race with such relentless malignancy. None has exerted such a decided influence on the lives of men and nations. It has been carefully estimated that fifteen millions of persons died from this disease every twenty-four years during the eighteenth century. All the inhabitants of Greenland died in one epidemic, and the country was practically lost for 300 years. In 1707 more than one-third of the population of Iceland died in one epidemic—18,000 out of a population 50,000. Smallpox was brought to the West Indies in 1507 by the Spaniards, and in 1527 Cortez carried the disease into Mexico. Within a few years the deaths from this disease among the native Indians numbered 3,500,000. Before the discovery of the protective influence of vaccination by Dr. Jenner in 1796, this disease destroyed, maimed or disfigured one-fourth part of mankind. In Great Britain every third person showed pox marks, and thousands, made blind by the disease, walked in darkness. The disease settled like a pall over the human race, and threw gloom over the pleasure seeking as well as over the toiling world. Parents retired at night and awoke in the morning in fear and dread lest their children should be visited by disfigurement or death from smallpox. It must be remembered that before the discovery of vaccination the disease was mainly confined to children—95 per cent of all the victims were children. Out of 1,000 deaths, 993 were children under 10 years of age. The adult population was largely composed of survivors

of attacks in childhood which rendered them immune. One of the striking proofs of the efficacy of vaccination in preventing smallpox is the reversal of this condition. Children vaccinated are immune, but as they grow to manhood or womanhood and neglect re-vaccination, many become again susceptible to smallpox in a modified form. At the present time nearly all cases of smallpox are found in persons over 20 years of age or in unvaccinated children under the school age of 6 years. Vaccination in this country is not compulsory under the school age, hence babies are neglected and an undue proportion of cases are from these unprotected children. We often hear it said that smallpox is a filth disease. It is not. It is no respecter of persons. It will attack the cleanly as readily and as furiously as those living in the dirt. It will invade a palace as readily as it will enter a hovel. Of the 5,000 Russian Jews in the Seventh ward of Chicago, not one was taken to the Isolation Hospital during the epidemic of 1894. This ward is one of the poorest and most uncleanly in the city. These people were vaccinated either before coming to this country or as they left the ship at New York. On the other hand, many notable persons have died from smallpox. Nineteen members of the royal families of Europe died of this disease, and many others survived severe attacks.

A disease so deadly must have had its influence upon society, and so it did. Early marriages were sought by parents for their daughters who had escaped smallpox in childhood, fearing that the blighting influence of the disease which was almost certain to come and mar their beauty and impair their chances of a desirable marriage. In those days a woman with no traces of the ravages of smallpox on her face could lay claim to beauty no matter how deficient in features she might be. Ben Johnson wrote: "Envious and foul disease, could there not be one beauty in an age and free from thee?" Before vaccination was discovered, everybody expected to have smallpox; there seemed no escape from it. Men were helpless in the face of this destroyer. When an epidemic attacked a city they did not mention the

number of cases of smallpox, but would say so many remain yet to have the disease. It was mentioned in a city of 2,700 population that there remained 360 yet to have the disease. Lord Macauley, in his history, referring to the disease as it existed in the latter part of the seventeenth century, uses this language: "That disease over which science has achieved a series of glorious and beneficent victories was then the most terrible of all the ministers of death. The havoc of the plague had been far more rapid but the plague had visited our shores but once or twice within living memory. The small pox was always present, filling the churchyards with corpses, tormenting with constant fear, all who had not yet been stricken, leaving on those whose lives it had spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and the cheeks of the betrothed maiden objects of horror to her lover."

How easily we could return to those evil days by neglecting vaccination. To show this disease to be a present danger, I will cite recent examples: From 1866 to 1869 in the presidencies of Bombay and Calcutta, with a population of 40,000,000, 140,000 persons died of smallpox. Ten years later, from 1876 to 1879, in the same district, 700,000 persons died of the disease. Again, nearer home and more recent: For many years the French Canadians of Montreal, Canada, have opposed vaccination, and that city found itself with a large unvaccinated population during 1885, when a porter from a Pullman Palace Car arrived there with smallpox. Many were exposed to the disease. In the short space of nine months, 3,164 died of smallpox. The population of Montreal, at that time, was 200,000—one-tenth of the present population of Chicago. Under similar unvaccinated conditions Chicago's death roll from smallpox would reach 31,640—several thousand more than the entire death list in that city from all causes in a year.

The protective influence of vaccination against smallpox is no longer a debatable question among scientific men. That a recent vaccination, or a vaccination with a re-

vaccination, until the susceptibility to vaccination is exhausted, is an absolute protection against an attack of smallpox, is not doubted by any one who has had experience with this disease. It seems hardly necessary to offer proof of this assertion to an audience of medical men, but I will give a few facts coming under my own observation as proofs of this statement:

No recently vaccinated person with small pox has been found in Chicago in the last ten years. No re-vaccinated person has had the disease in the same time. No ambulance driver, no undertaker, nurse or doctor connected with the Isolation Hospital, has contracted smallpox, although they are constantly exposed to the disease in all its phases. No vaccinated school child has ever had the disease, though a few unvaccinated in school with false certificates became victims. More than two thousand medical students have visited the Isolation Hospital during the last four years. They were exposed to the disease in all its forms and none of them took smallpox. They were required to have one vaccination and three re-trials unless a second vaccination was secured before the third attempt. Of the 1,810 cases of smallpox admitted to the Isolation Hospital in Chicago in the last four years, 1,537 never had been vaccinated, 273 had old marks, but none of them had ever been re-vaccinated. A careful estimate indicates that about 95 per cent of the people of Chicago are vaccinated. You will observe nearly all of the cases—1,537 out of 1,810—came from the five per cent remnant who are not vaccinated. If five per cent of the population furnishes 1,537 cases, 95 per cent should furnish nine and one-half times that number, or 14,601, instead of 273. That is to say, 1,537 cases came from the 100,000 that remain unvaccinated, while but 273 came from the 1,900,000 who are vaccinated. No person vaccinated by the Department of Health has been found to have the disease, though we vaccinate over two hundred thousand yearly.


A vaccination, to be protective, must be made with a potent lymph. A successful vaccination may be known by the presence of vesiculation, umbilication, pustulation,

mild and limited inflammatory area with febrile reaction. In about twenty days from the beginning of the vesicle the resulting scab comes off. This leaves a scar. In babies under three months of age the fever is usually absent. The vaccine lymph now used is not open to the objections formerly urged against it—that of impurity. It is procured from the vesicles on a healthy animal and put into glycerin for a period of sixty days, which kills all disease producing germs but does not impair the vaccine. It is then tested in the laboratory for purity and is rejected if not found free from injurious germs. A small, clean vaccination made with this lymph on a clean arm and kept clean afterwards harms no one and is a certain protection from smallpox. It will protect for about ten years. In many it will protect for life. I have never seen a case of smallpox in a person vaccinated within nine years. Every child should be vaccinated before it is six months old, and again in from seven to ten years. The operation should be repeated from time to time during life to make sure the protection has not run out. Such a vaccination is a small price to pay for complete immunity from so destructive and revolting disease as smallpox.

I believe that every person is susceptible to vaccinia at least once. In more than ten years experience in the Chicago Health Department, no one has been found insusceptible to vaccinia. Many cases have been tried five, six and as many as thirteen times before a "take" was secured, but none were found immune from vaccinia. Inert lymph or faulty technique are responsible for most failures. Do not make a large mark like

this:  or this:  and do

not bring blood. Sterilize the arm, throw the vaccine on the arm, then with a dull needle go right through the drop of lymph with the point and with slight pressure irritate and abrade the skin until it is red. If your needle is dull you can avoid drawing blood. Do not remove the epithelium from a spot more than one-eighth of an inch in

diameter. Make but one mark and make it this size: 

Discussion of Dr. Spalding's Paper.

Dr. H. G. Anthony, Chicago: Dr. Spalding is entitled to the credit of being the only officer connected with the Chicago Department of Health who has made an effort to lay before the profession the observations made in that department, and he is entitled to the thanks of the profession for giving us the benefit of the enormous amount of material he has had at his disposal.

Speaking of the prodromal eruptions of smallpox, he mentioned an eruption which resembles scarlet fever, and another which resembles measles. There is another form which has come under my observation, one which gives the general practitioner a great deal of trouble, and that is the eruption of a few pimples on the abdomen which is usually mistaken for the eruption of typhoid. However, the time at which that eruption appears distinguishes it from typhoid. I remember one case in which a diagnosis of typhoid was made, and the physicians in charge were unwilling to accept a diagnosis of smallpox until after the typical eruption appeared.

Dr. J. M. G. Carter, Waukegan: I wish to ask Dr. Spalding what in his opinion, is the minimum precaution that an immune physician should take with regard to conveying the disease to others.

Dr. W. C. Abbott, Chicago: I would like to ask Dr. Spalding whether there is a modicum of sense or experience in the claims of some physicians that a person may be protected from smallpox by the ingestion of triturations of the virus.

Dr. S. M. Miller, Peoria: I would like to ask the doctor to give us his ideas of the treatment that his patients get in the Chicago Isolation Hospital.

Dr. Spalding, closing the discussion: In answer to Dr. Carter's question,—many years ago I asked the advice of the late Dr. N. S. Davis and Dr. H. A. Johnson what to do in that matter, and I have followed their suggestions ever since; and they apply to scarlet fever as well as smallpox. Nothing but the soles of my shoes come in contact with the home of the patient. I stand off at a distance to make the diagnosis; I have the attendants uncover the patient; I do not touch anything, not even the door knob as I enter the house, except when I have to vaccinate a person. I keep my hat on my head, and I air myself thoroughly after I get out, and, so far as I know, I have never carried the disease to any one. These are also the directions we give to our inspectors, and they have never carried the disease to others.

As to potentization, we meet the query frequently. A few doctors in Chicago give certificates stating that they have potentized a child; of course, such children are not admitted to school. I have vaccinated such thoroughly potentized persons, and I always got a good vaccination.

As to treatment, mild cases require no treatment. In severe cases, without entering into the treatment in detail, sustain the patient; do not

put on an antiseptic salve. The smallpox lesion is like vaccination. You want it to dry and scale off. By using a salve you prevent this drying and scaling off. After it begins to scale, you can resort to antiseptic salves with some benefit.

We have tried the Finsen treatment three times. At one time on over forty cases. It is worse than useless; it is positively harmful. It does not prevent pustulation in the least, nor does it prevent pitting on secondary fever.

COUNCILORS' REPORT.

Freeport, Ill., April 25, 1905.

To the Honorable Chairman of the Council of the Illinois Medical Society:

During my service as councilor I have visited six out of the seven societies in my district.

Stephenson county has 44 physicians who are entitled to be licensed by State Board. Thirty-nine of these affiliate with the State Society and paid their dues for 1904.

The county society is in a very prosperous condition and holds its meetings quarterly at Freeport, which are well attended and usually have three or four papers, which are well prepared and discussed with great interest.

Dr. J. T. White, who is an osteopath and a graduate from Kirksville and licensed to practice from some Missouri Medical College has not been accepted by the society. However, he has a very verbose write up in our State Journal, which to the profession in this part of the State is considered as a joke. The publication of the article, which has been presumably copied from a newspaper relative to his expert testimony in a murder trial at New London, which is said to have consumed nearly one week's absence from home with several months time devoted in experimentation found in drowning guinea pigs, mice, etc., and that he received one hundred dollars for services at an autopsy. The appearance of the article in the Journal cannot be too strongly reprimanded.

The Fox River Medical Society (present officers: President, Dr. Frank H. Jenks, Aurora; Secretary, Dr. G. F. Allen, Aurora) which comprises McHenry and Kane counties, have twenty-five members who have paid their State dues. I certainly believe that

another year we shall have at least 80 per cent of these who will affiliate with the State Society.

There seemed to have been a misunderstanding between this society and the State Society which led to a pretty strong opposition as well as personal feeling with some of the members, which I have a perfect right to think will shortly be forgotten.

The society is a strong one and has many very influential men, and I feel very happy that we are enabled to enroll this number for 1904. Under the efficient management of President F. H. Jenks and Secretary G. F. Allen, we shall have a much better showing another year.

Kane county, according to best statistics I could collect, has 153 physicians. McHenry 52. This shows a shamefully small number who affiliate with the State Society. I believe that in the year 1905 Kane county can be organized, though I have found considerable opposition, as many of these members are satisfied with, and do not wish to withdraw from this present association, viz: The Fox River Valley Medical Society.

Necrology—Dr. C. L. Smith, Aurora, Ill., April 15th, 1905.

The present Secretary has been very curt in his replies to me and apparently taken no interest in assisting me in obtaining information.

Ogle county has a paid membership of 18. I endeavored to have them call a meeting before the State meeting but owing to an epidemic of smallpox was prevented from doing so. There are 54 physicians in the county.

Necrology—W. F. Burns died at his home in Polo about the middle of April.

Carroll County Medical Society has 32 members, 13 of which have paid their State dues. I met with this society and read a paper and aroused considerable enthusiasm. I am sure Carroll will give us a better quota another year.

There has been considerable discord among the physicians in the county but I believe there is now a better understanding and in future things will sail more smoothly.

out of a membership of nearly ninety by

There will be a meeting at Savanna, Ill., May 9th. I shall be present and give them a paper and also endeavor to increase the State membership.

There has been no necrology.

DeKalb County Medical Society, which suspended itself last year for non-payment of dues, held a meeting April 14, 1905. The following officers were elected:

President, Dr. G. W. Nesbitt, Sycamore.

Vice President, Dr. J. M. Kaiser, Somanauk.

Secretary and Treasurer, Dr. C. H. Mor-doff, Genoa.

I was present and read a paper and we got up considerable enthusiasm. Here as in Kane county there seemed to have been about the same misunderstanding, but out of a membership of about 35 members, 17 came up and paid their dues and four had paid up last year making 21 members. Here, too, I believe we will by another year have them practically all enrolled.

The county has 58 physicians.

Necrology—Dr. E. L. Mayo of De Kalb, died March 2, 1905, at his home in De Kalb.

The JoDaviess County Medical Society, under the tactful management of its officers, Dr. J. T. Stafford, (Dr. A. C. Czilbulka of Warren, President for 1905, and Dr. D. G. Smith of Elizabeth, Secretary) and especially Dr. D. G. Smith, its secretary, has 22 members which have paid their state dues. There are twenty-five physicians in the county which leaves but three that have not affiliated with the society.

Harmony exists and makes the work much pleasanter for all. Its meetings are held at various points in the county quarterly and the physicians in these several localities entertain the members royally, which no doubt has a wonderful influence on the welfare of the society. I have visited this society of which I am an honorary member several times and entertained them with a paper.

Necrology—Jeremiah N. Sharp of Stockton, Illinois.

Winnebago County Medical Society has a membership of ??, including Boone county,

which has twenty-four physicians and Winnebago county eighty-one. Some of the Boone county physicians affiliate with Winnebago and some with De Kalb county.

At their January meeting and election of officers, the president elected is very unpopular and since his election they have not been able to get out a quorum.

The old secretary has just turned over the books to the new secretary and they contain neither head nor tail. I went down to Rockford to attend their last meeting, but no officers nor but four or five members present, so the meeting was not called to order. The secretary promised me to make a report to secretary before the State meeting and send State dues. Until another president is elected there will not be much doing in the Winnebago County Medical Society.

There are many conditions which require education of the physician, as he constantly complains of the laity when he alone is the one who needs training and systematic education to bring about harmony in the profession and this as a precept will gradually bring the laity into line.

Respectfully,

J. H. STEALY,

Councilor First District.

RUTLAND, ILL., May 15, 1905.

To the Council of the Illinois State Medical Society:

As councilor of the second district, the undersigned has the honor to herewith make annual report for the district named, which is composed of the ten counties of Lee, Whiteside, Bureau, La Salle, Putnam, Marshall, Woodford, Kendall, Grundy and Livingston.

At the last annual session of the State Society, six counties from the north side of this district were set off to another district, while four others were added on the east and south sides of its territory. Included in such addition was one county, viz: Woodford, then unorganized.

Following such change of territory, efforts were at once set on foot to reorganize the formerly existing, but long dormant, Woodford County Medical Society, an organiza-

tion with a very creditable history and of important influence in medical society work in the past. Such reorganization was successfully accomplished on August 24, 1904, and is now presided over by one of its early and capable members of former years. Such society is at this time in excellent working order under a charter issued under date of December 1st, of the same year.

This result completes the organization of the counties of the second district, and is a pleasure to be able to state that the component societies in such district are, at the present time, in a healthy and active condition, and each constitutes a live and vigorous medical organization.

There are now about 485 physicians located in the territory embraced in the district, about 245 of whom are already members of the component societies therein, leaving about 240 who are not thus affiliated. Doubtless a per cent of the latter number, by reason of advanced age, feeble health, change of profession, or for other causes, may have become incapacitated or rendered incapable of active membership. Therefore it may not be unsafe to state, that at least 60 per cent of all the eligible profession in the district are now affiliated with its component societies.

With the completion of the county society organizations, it is hoped that much more attention may hereafter be given to building up and enlarging, by increase of membership and the attraction of more professional interest therein, each of the local societies as it now exists.

Through the ever changing activities, as well as conditions, of physicians by professional retirement, removal or death, it becomes a very difficult matter to give exact statements as to numbers, which though correct today shall be reliable tomorrow; therefore we can only hope to very closely approximate the facts as they really exist, in our estimate of the number of physicians located in any district of our State.

The following, however, closely approaches a practically correct estimate for the second district:

Society	No. resident Physicians in County	No. members in Society
Lee County	53	21
Whiteside County	56	28
Bureau County	68	43
LaSalle County	117	48
Putnam County	7	6
Marshall County	26	12
Woodford County	28	9
Kendall County	17	13
Grundy County	28	Estimated 17
Livingston County	85	38
Total	485	245

It had earnestly been hoped that a much more complete report might have been prepared for this occasion, but the difficulty in securing proper data and the neglect or delay of response to inquiries, on the part of other parties to whom such had been made, has prevented its accomplishment.

Many deaths, and one at least by violence, have occurred throughout the district all mention of which, for the want of full reports from others is at this time omitted.

Respectfully submitted,

WM. O. ENSIGN, M. D.,

Councilor Second District.

The third councilor district comprising the counties of Cook, Lake, DuPage, Will and Kankakee has done very good work during the past year.

All of the counties with the exception of DuPage have county organizations, which are in a very flourishing condition. Du Page county, it will be remembered, was made a part of Cook county, and nearly all of the physicians in Du Page county are members of the Cook County Medical Society.

The Kankakee County Medical Society has held regular well attended meetings throughout the year.

Concerning the Lake County Medical Society, Dr. A. C. Haven, Secretary, writes as follows: "Lake County Medical Society is flourishing. We have very interesting bi-monthly meetings at Waukegan. We have twenty-seven members. The register of the county shows forty-five members of the profession, half dozen of these are not practic-

ing. There have been two deaths during the year, Dr. D. B. Taylor, of Milburn, Ill., and Dr. L. C. Beau of Waukegan, both over seventy years of age. It is twenty-one years next June since our Society was organized, and Dr. J. M. G. Carter of Waukegan and myself are the two surviving organizers.

I think I can report that the interest in the Society has increased greatly the last year."

Dr. F. C. Fisher, Secretary of the Will County Medical Society, writes concerning the society as follows:

"The larger proportion of our Society members are residents of Joliet. It seems to be a difficult matter to convince the average practitioner outside of this city that his interests are identical with those of the Society.

Our Society numbers forty-five paid and active members at present, with some four or five others who will probably become members within a short time.

There are in this county some forty to forty-five physicians, who have not affiliated themselves with this Society nor with any other so far as I know. Of this number some twelve to fifteen are not eligible to membership in this Society.

This Society meets on the first Tuesday of each month. There have been no deaths among our members during the year passed."

The Cook County Medical Society has a total membership of 1673, of these 1461 are resident members; 104 life honoraries and emeritus, and 108 non-resident members.

Up to date there have been elected to membership 160. There have been nine resignations and five deaths. There are in the county about 800 physicians who are eligible to membership, but who have not yet come into the Society. The applications of a number of these are already in the hands of the membership committee, and steps are under way to get them all or as many of them as possible to come into the Society.

The branch Societies which are peculiar to the Cook county organization, are all doing excellent work both in a scientific way and in a way of recruiting new members to the general Society.

M. L. HARRIS.

PEORIA, ILL., May 8, 1905.

Efforts in Springfield and other causes have conspired to prevent my reporting just when I intended.

Briefly, my councilor district is in fairly good shape. Have kept in close touch with work of, or personally visited, ten of the twelve counties. Schuyler and Henderson, I have been only indirectly informed respecting, but all are organized. I shall soon wake them up, however.

I cannot make accurate report as to membership, since the nominal and actual are in most locals so confused as to render separation impossible until last report is made to State Secretary. He is therefore the most reliable source of information on that score.

The principal fact that seriously presents itself for consideration is the confusion in most local societies as to whether members who will not pay State dues are to be considered or retained as members. In some of the counties, as Fulton for instance, the society is dominated by non-State members. Much error is therein manifest, and may readily be made a source of disruption. To me it seems a source of much menace. That is the chief point I have for your consideration in presenting matters to the House of Delegates. I would suggest the desirability of securing some decision for use of the councilors.

I have had many pleasant experiences, but there is the universal apathy characteristic of the profession when it comes to activity of attendance and participation in the work of the local organizations. As of yore, the few only are wide-awake to the necessities of the case.

Fraternally and sincerely,

O. B. WILL.

P. S. The average membership (nominal) in my district is about 50 per cent of the profession: Peoria, Knox, Rock Island, McDonough and Warren are above the average, and remainder below it.

As above stated, the greatest annoyance is in the existence of two classes of members, those attached to the State body and those not. In Fulton, as above mentioned, the

small proportion holding State membership are called "affiliating" members, but the "non-affiliating" dominate in the Society, and become irritated when it is hinted that they are not properly members at all in the aspect of State organization. The relationship of such needs to be better understood and defined, and the action of such societies respecting State Society interests be understood as questionable. O. B. W.

BLOOMINGTON, ILL., May 1, 1905.

*Dr. W. O. Ensign, Chairman of the Council
Illinois State Medical Society.*

Dear Doctor:—

At the last annual meeting of the Illinois State Medical Society, an amendment of the by-laws makes it necessary for the councilor to make an annual report of his work and of the conditions of each county in his district, at the annual session of the Council. In compliance with these conditions, I therefore take pleasure in presenting the following report.

At the suggestion of the chairman, in a personal letter, it seemed convenient and quite proper to ascertain the following facts by some personal inquiry of the several societies in my district. Accordingly I took up correspondence with the Secretaries of the Societies and made inquiry as follows:

(1) The number of physicians who are members of your County Medical Society?

(2) The number of resident physicians in your county?

(3) The number of resident physicians in your county who are not members of your County Medical Society?

(4) The name, date, late residence, age and cause of death of any physicians who may have died during the year.

(5) The prosperity of your Society and new members admitted during the current year.

(6) Any notable or special meeting during the year, such as banquets or symposiums on special subjects of medicine and surgery, or any other items of unusual interest showing the progress of your county organization during the year.

To which the several counties replied as follows:

MCLEAN COUNTY MEDICAL SOCIETY.

R. A. Noble, Secretary.

(1) We have 88 members in good standing.

(2) There are 23 regulars; 18 Homeopath and 5 Eclectic.

(3) 58.

(4) Samuel L. Chapin, September 19, 1904, Saybrook. Murdered by being shot.

(5) The Society is in a prosperous condition. Lost six members by non-payment of dues, two by removal to other counties. We have added 10 new members and two members by transfer from other counties. Total new members during the year, 12.

(6) Regular interesting program of year's work.

SANGAMON COUNTY MEDICAL SOCIETY.

C. R. Spicer, Secretary.

(1) Now have 76 members in good standing. Of these 6 are not residents of this county.

(2) There are a total of 150 physicians in county.

(3) Of these 128 are eligible to membership, 70 are members, and of the other 80 many are too old to practice and others are indifferent. The other not accounted for are irregulars.

(4) The only death in the profession in the county during the past year was that of Dr. Chas. Kerr of Springfield. He had heart lesion; besides this loss was one removal.

(5) We have gained in new members, 8.

(6) We have had one symposium on tuberculosis.

LOGAN COUNTY MEDICAL SOCIETY.

H. S. Oyler, Secretary.

(1) We have 22 members in good standing.

(2) We have about 62 physicians in the county.

(3) Physicians not members in the county, 40.

(4) None reported.

(5) Eight members added during 1904.

(6) No meetings except the regular meetings.

DEWITT COUNTY MEDICAL SOCIETY.

A. E. Campbell, Secretary.

- (1) 24 members in good standing.
- (2) 29 resident physicians.
- (3) 5 physicians not members of the Society.
- (4) No deaths to report.
- (5) Condition of the Society, fair. New constitution adopted.
- (6) No special meetings.

MASON COUNTY MEDICAL SOCIETY.

H. H. Hanley, Secretary.

- (1) 16 members at present time.
- (2) About 26 at present.
- (3) About 10.
- (4) Dr. P. L. Dffenbacher, Havana, Ill., January 29, 1905. Cause of death uremic cystitis and hypertrophied prostate.

Dr. A. M. Bird, Mason City, Ill., about January 20, 1905. Of apoplexy.

(5) At present time society is in good condition though it is rather difficult to get a good attendance at the meetings which are quarterly.

(6) No meetings of special interest.

IROQUOIS AND FORD COUNTY SOCIETY.

Dr. C. O. Burgess, Secretary.

Reports 44 members in the Society, 22 of whom have paid dues and 22 not having paid dues. Treasury contains \$50.50.

Society holds two meetings a year. Annual meeting on January 1. We consider the Society in a prosperous condition.

Dr. S. M. Wiley, President; S. D. Culbertson, Delegate. Also furnishes report.

At present date. (May 1.) I have been unable to get a report from the following counties: Menard and Tazewell.

From the foregoing reports that have been received it will be seen that there is quite a little interest manifested in the fifth district, in the interest of medical organization and all medical society work. During the succeeding year hope to be able to present a report showing continued progress and interest in county organization and pro-

fessional advancement, in view of which this report is respectfully submitted.

J. WHITEFIELD SMITH,

Councilor of Fifth District.

JACKSONVILLE, ILL., May 8, 1905.

W. O. Ensign, Chairman and Members of the Council of the Illinois State Medical Society:

As councilor from the sixth district, comprising the counties of Adams, Brown, Calhoun, Cass, Greene, Jersey, Madison, Macoupin, Morgan, Pike and Scott, I would make the following report:

Every county in the district has a society which is affiliated with our State Society, each one of these county societies has held one or more regular meetings during the year and I have, as councilor, visited each society at least once, and I find that all seem to be in good condition; although as yet their membership is not as extensive as it should be, nor is the attendance as large in proportion to the membership as we would like to see it. However, if the next five years shows as much improvement as the last we believe conditions in the sixth district will be eminently satisfactory.

I had hoped to be able to present at this meeting a complete index of the physicians of the district, but it has taken considerable time to explain to the secretaries the purposes of the index and to secure their active co-operation. For most of the counties the index is now complete. One county has done nothing, and in two counties the index is only complete as to the membership of the Society. I certainly think before the end of another year this matter can be fully completed.

During the present year we have re-organized the Western Illinois Medical and Surgical Association into a District Society for the Sixth District. A meeting for re-organization was held in Quincy in October, at which time we were entertained by the profession of Adams county. The first regular meeting for re-organization was held in Jacksonville, Morgan county, on May 5th,

at which about forty physicians from the district were present. Permanent officers were elected.

CARL E. BLACK.

Dr. W. O. Ensign, Rutland, Ill.

Dear Doctor: This you may accept as a brief and informal report of the affairs of the seventh councilor district.

All counties in the district have active, working societies organized under and component with the State Society, with the exception of Moultrie county. I visited Moultrie county in March, interviewed a number of the leading physicians, and had hoped, as the result of that visit, to see the Moultrie County Society affiliated with the State organization before the annual meeting. However, Dr. B. F. McMenamy, a strong organization man, upon whom, more than any one else, depended the completion of the organization became sick and died a few days ago. I have the promise of Dr. A. D. Miller of Sullivan that an organization will be speedily effected.

Nothing of especial interest has arisen in the district during the year.

Fraternally yours,

E. E. FYKE.

CHAMPAIGN, ILL., May 15, 1904.

To the Council of the Illinois State Medical Society:

Gentlemen: I hereby submit my annual report as councilor of the eighth councilor district which comprises the counties of Champaign, Vermilion, Douglas, Edgar, Coles, Cumberland, Clark, Jasper, Crawford, Richland and Lawrence. Every county above named has an active medical organization and reports for the most part are quite favorable considering conditions two years since, they may be regarded as highly satisfactory but they show the need of a great deal of work still in the way of organization. Interest in medical society and medical discussion being in most cases fairly good with only about twenty-five per cent of the members participating and about fifty per cent still out of the county organizations.

Champaign county shows: Physicians affiliating with the State Society, 51.

Number added during past year, 7.

Number of meetings, 7.

Average attendance of meetings, 21.

Deaths, none.

Removals, none.

The County Medical Society at the time of making this report is involved in controversy with W. H. and Anna L. Zorger over the right of title to the name "Champaign County Medical Society," the above named parties having incorporated a county medical society under that name, and forbid all others from using the same. Whether the original county medical society had prior rights owing to its incorporation by the Illinois State Medical Society will be left for your honorable body to indicate.

Clark county: Number of physicians affiliating with the State Society, 12.

Number added during the past year, 2.

Number of meetings, 4.

Average attendance, interest fair, 8.

Deaths, 4. Dr. S. T. Williams, Casey; Dr. J. H. Parcel, Westfield; Dr. James Madison, Marshall; Dr. C. H. Felts, Clark Center.

Removals, Drs. H. W. and P. P. Haslet.

Coles county: Number of members affiliating with State Society, 31.

Added during past year, 10.

Number of meetings, 6.

Average attendance, 12.

Interest, good.

Deaths or removals, none.

Crawford county: Number of members in affiliation with State Society, 23.

Numbers of members added during past year, 3.

Number of meetings, 6.

Average attendance, 14.

Interest in work, fair.

One death, one removal.

Cumberland county: Number of physicians affiliating with State Society, 11.

Number of physicians added during the year, 8.

Number of meetings, 4.

Average attendance, 7.

Interest in work, fair.

No deaths, no removals.

Douglas county: Number of paid up members, 7.

Number added to State Society during the year, none.

Average attendance, 6.

No deaths.

One removal.

Edgar county: Number of physicians affiliating with State Society, 21.

Number of physicians added during past year, 2.

Average attendance, 20.

Number of meetings, 4.

No removals, no deaths.

Jasper county: Number of physicians affiliating with State Society, 19.

Number of physicians added during past year, none.

Interest of members, poor.

No deaths, no removals.

Lawrence county: Number of physicians affiliating with State Society, 22.

Number of physicians added during past year, none.

Average attendance, 15.

Interest of members, good.

Number of meetings, 4.

No deaths.

One removal.

Richland county: No report.

Vermilion county: Number of physicians affiliating with State Society, 67.

Number of physicians added during past year, 9.

Number of meetings, 10.

Average attendance, 15.

One death.

Removals, not noted.

Dr. E. W. Johnston died in June, 1904, of sarcoma of the parotid gland after a long and painful illness.

When it is remembered that only four counties in this district were organized two years ago it will be seen that much has already been accomplished, but interest in scientific work is not up to requirements and the number taking part in society work is in some instances entirely too small. Much of the credit of organizing and maintaining county societies in the southern end of the district is due to the efforts of Dr. C. Barlow, of Robinson.

Respectfully submitted,

W. K. NEWCOMB.

Councilor Eighth District.

CARBONDALE, ILL., May 2, 1905.

Dr. W. O. Ensign, Chairman, Rutland, Ill.

Dear doctor: I submit herewith a partial report for the ninth district. There are 7 out of the 23 counties comprising the district that have not reported so far. The report is therefore unsatisfactory, but is the best I can make at this time and will give you a fair idea of the condition of this district.

Yours very truly,

J. T. McANALLY.

COUNTY.	Member ship.	No. Phys- icians in County.	No. meet- ings dur- ing year.	Condition of Soci- ety.
Union	15	44	None	Very dormant
Franklin	17	23	4	Good
Perry	9	22	None	Poor
Randolph	21	35	None	No interest
Alexander	10	22	4	Good
Williamson	46	55	12	Good
Hamilton	15	25	1	Good
Edwards	9	14	4	Good
Jefferson	26	36	10	Good
Wayne	13	35	4	Good
Johnson	20	50	4	Good
Monroe	12	19	2	Good
St. Clair	10	150	6	Good
White	13	39	1	Singular
Polk	16	18	4	Good
Massac	15 (estim'd)	30	No report	
Peoria	10	20		
Carroll	10	1		
Saline	18	45		
Washington	16	33		
Wabash	18	22		
Troutman	15	10		
Hardin		44		Not organized

The following counties have been organized during the year: Jefferson and Monroe. Hardin county has no organization. I at-

tempted to hold a meeting there but could get no date fixed.

Have visited officially and attended society meetings in Wabash, Wayne, Jefferson, Monroe and Jackson counties. Have addressed three or more official communications to the secretaries of the various county societies relative to society work and better organization.

The following have died during the year: R. S. Peyton, Pinckneyville, 69 years; cause of death, cancer.

The following members from Illinois attended the recent meeting of the American Medical Association at Portland:

Abbott, W. C., Chicago,
Adams, A. L., Jacksonville,
Alguire, A., Belvidere,
Alguire, A. B. McC., Belvidere,
Andrews, F. T., Chicago,
Bacon, C. S., Chicago,
Baldwin, A. E., Chicago,
Baum, W. L., Chicago,
Berry, R. D., Springfield,
Billings, F., Chicago,
Boshell, H. N., Melvin,
Bourland, I. N., Equality,
Bowen, C. F., Chicago,
Bowles, M. K., Joliet,
Brennecke, H. A., Aurora,
Brobst, C. H., Peoria,
Brower, D. R., Chicago,
Brown, E. V. L., Chicago,
Burlingame, D. E., Elgin,
Butler, W. J., Chicago,
Buxton, W. E., Samsville,
Cargill, C. W., Mason City,
Carson, G., Chatsworth,
Carter, J. M. G., Waukegan,
Coe, T. D., Keithsburg,
Cook, G. F., Mason City,
Cook, J. C., Chicago,
Cotton, A. C., Chicago,
Crocker, F. S., Chicago,
Davis, E. V., Chicago,
Dixon, W., Chicago,
Ehrmann, F. J. E., Chicago,
Eldred, C. C., Joliet,
Elliott, F. M., Aurora,
Enright, C., Scales Mound,
Fletcher, J. R., Winnetka,
Foley, J. C., Waukegan,
Frank, J., Chicago,
Freer, O. T., Chicago,
Fringer, W. R., Rockford,
Garrison, H. E., Dixon,

Gilmore, R. T., Chicago,
Goldspohn, A., Chicago,
Graham, D. W., Chicago,
Green, F. R., Chicago,
Green, G. W., Chicago,
Green, R. L., Peoria,
Gregory, L. L., Chicago,
Guthrie, W. E., Bloomington,
Haigrove, J. W., Jacksonville,
Halberg, C. S. N., Chicago,
Hall, W. S., Chicago,
Harris, M. L., Chicago,
Harsha, W. M., Chicago,
Hartung, H., Chicago,
Harvey, L. J., Griggsville,
Horrell, C. B., Galesburg,
Hunt, C. C., Dixon,
Jump, E. W., Plainfield,
Kemp, Geo. T., Champaign,
Kreider, G. N., Springfield,
Latham, V. A., Chicago,
Lemen, H. R., Alton,
Lewis, D., Chicago,
Lichty, D., Rockford,
Linn, E. C., Monmouth,
MacDowell, G. A., Chicago,
Maclay, A. I., Delavan,
Main, R. H., Barry,
Maley, W. H., Galesburg,
Martin, W. B., Sherrard,
Matheny, R. C., Galesburg,
McArthur, L. L., Chicago,
Meserve, A. G., Robinson,
Michael, M., Chicago,
Miller, A. M., Danville,
Miller, J. S., Chicago,
Milnamow, J. T., Chicago,
Mitchell, E. L., Monmouth,
Mix, C. L., Chicago,
Montgomery, L. H., Chicago,
Murphy, E. S., Dixon,

John McMenemy Walsh, 56 years; Pthisis Pulmo.

Wm. Hayton, Cottage Home, 90 years.

W. F. Hall, McLeansboro, 52 years; Gall Stones.

D. F. Whited, Dahlgren; Diabetes.

A. R. Silvey, Murphysboro, 45 years; Peritonitis.

R. R. Lacey, Carbondale, 65 years; Pneumonia.

A. N. Stout, Ava; Pneumonia.

Neville, F. A., Meredosia,
Nance, W. O., Chicago,
Ochsner, A. J., Chicago,
Oyen, A. B., Chicago,
Pearce, B., Waukegan,
Pelton, O. L., Elgin,
Percy, J. F., Galesburg,
Polk, J. L., Champaign,
Pusey, W. A., Chicago,
Rafferty, T. N., Robinson,
Rawlings, I. D., Chicago,
Riese, B. L., Chicago,
Riley, C. M., Alton,
Rowe, M., Redmon,
Ruediger, G. F., Chicago,
Sala, St. E. M., Rock Island,
Schwachan, W. B., Chicago,
Smith, D. G., Elizabeth,
Simmons, G. H., Chicago,
Stanton, S. C., Chicago,
Steele, D. A. K., Chicago,
Stremmel, S. C., Macomb,
Strohecker, S. M., Chicago,
Sutton, E. M., Peoria,
Sutton, J. E., Canton,
Swan, C. F., Chicago,
Talbot, E. S., Chicago,
Taylor, J. L., Libertyville,
Taylor, L. C., Springfield,
Thometz, J. J., Chicago,
True, C., Kankakee,
Tuthill, J., Leroy,
Urban, B. F., Kankakee,
Washburn, W. C., Kewanee,
Waugh, W. F., Chicago,
Weidner, M. R., Dolton,
Wells, E. F., Chicago,
Williams, T. W., Casey,
Wright, C. E., Scales Mound,
Zapffe, F. C., Chicago.

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

AUGUST, 1905.

NEXT ANNUAL SESSION, SPRINGFIELD, MAY 17, 18, 19, 1906.

OFFICERS:

PRESIDENT—H. C. MITCHELL, Carbondale.

FIRST VICE PRESIDENT—W. K. NEWCOMB, Champaign.

SECOND VICE PRESIDENT—M. S. MARCY, Peoria.

SECRETARY—EDMUND W. WEIS, Ottawa. Ex-officio clerk of council.

TREASURER—EVERETT J. BROWN, Decatur.

EDITOR—GEORGE N. KREIDER, Springfield.

ASSISTANT EDITOR AND BUSINESS MANAGER—F. C. GREEN, 63rd and Lexington Ave., Chicago.

SECTION ONE.

Practice of Medicine, Medical Specialties, Materia Medica, Therapeutics, Etiology, Pathology, Hygiene, State Medicine and Medical Jurisprudence.

J. H. Stowell Chairman
Columbus Memorial Building,
Chicago.

H. H. Whitten Secretary
Peoria.

SECTION TWO.

Surgery, Surgical Specialties, and Obstetrics.

J. R. Christie Chairman
Quincy.

S. C. Plummer Secretary
34 Washington St., Chicago.

Committee on Prevention of Tuberculosis.

J. W. Pettit, Ottawa.

C. L. Mix, Chicago.

J. F. Percy, Galesburg.

Committee on Public Policy and Legislation.

Frank Billings, Chicago.

Carl E. Black, Jacksonville.

J. W. Pettit, Ottawa.

The Pres. and Sec'y. Ex-Officio.

Committee on Scientific Work.

J. H. Stowel.

J. R. Christie.

The Pres. and Sec'y. Ex-Officio.

The figures before the names of the Councilors refer to the Councilor Districts.

The Council.

(1) J. H. Stealy, Freeport.

(2) W. O. Ensign, Rutland,
Chairman.

(3) M. L. Harris, Chicago.

(4) O. B. Will, Peoria.

(5) J. Whitefield Smith, Bloomington.

(6) C. E. Black, Jacksonville.

(7) E. E. Fyke, Centralia.

(8) C. Barlow, Robinson.

(9) J. T. McAnally, Carbondale.

THE PORTLAND MEETING.

More than 1,500 members of the American Medical Association assembled at Portland, Oregon, last month and took part in the scientific program and enjoyed the bountiful entertainments provided by the profession of the North West coast. Unusually low rates were given by the railways because of the exposition and this together with the side trips to well-known resorts, which could be made before and after the meeting, undoubtedly served to increase the attendance. Of these resorts, their advantages and disadvantages we will speak of in a future

issue. Our professional brethren of Portland undertook a very large contract when they invited the National body to their beautiful city and the only wonder is that they succeeded with the details as well as they did. If we mention some of the unfortunate features of the session we do it in no spirit of criticism but merely to draw some lessons for the future. * * * * As usual the attempt to house the exhibitors and the general meeting in the same building was a dismal failure. The first general session, which had to be abandoned, was the only one held in the armory. The others were held

in the beautiful Presbyterian church but the unfortunate results of the first meeting were seen in the meagre attendance at the remaining sessions. This notwithstanding the addresses presented were of a high order and deserving of greater appreciation. The necessity for having the management of the annual meetings in the hands of persons accustomed to handle the details had become so apparent not only at this but at other meetings, that the house of delegates voted to change the method and in future we may reasonably expect to see a different condition of things. We surely will not see at any future meeting, a prominent place given to that medical journal which in no way represents the best elements of the medical profession, nor to those proprietary remedies which are denied admission to the armamentarium of self respecting practitioners. Fortunately the number of exhibitors at this meeting was small and most of them were respectable *

* * * This brings the question of advertising in general and here again a long step was taken by the representatives of the profession. Not as firm a step as many would like to see taken but the spirit of reform was there and shows that education of the profession is going on which in a few years will result in casting out from all respectable journals the "yellow" ads which have so long found a place in them. In this great work nothing has had so great an influence as the stand taken by the various official State Journals which have with very few exceptions taken an unassailable position of opposition to all such preparations as would not bear thorough examination not only of their composition but as to the manner in which they are put on the market. This subject was appropriately brought to the front at the meeting by the action of the Missouri State Medical Association. In this State the larg-

est and most flourishing nostrum factories are located and many of the profession have been disgracefully implicated in exploiting proprietaries. The influence of the California society was prominent in this matter and Dr. Wells of Chicago also presented resolutions from the section on Practice of Medicine. * * * * Another important action of the house was the approval of the project to publish a reliable medical directory. Opposition to this developed from the home city of a firm now publishing a directory but fortunately the delegates endorsed the correct plan. We have personally several times called the attention of directory publishers to the great mistake they were making in inserting quack advertisements in their columns but all to no effect. The action of the delegates at this meeting was the result of this mistaken policy. * * * * The Senn medal was awarded to Dr. J. L. Yates, of 700 Sedgwick street, Chicago, his article being entitled "An Experimental Study of the Local Effects of Peritoneal Drainage."

* * *

Dr. Geo. H. Simmons was given well deserved praise for his conduct of the Journal and his services as Secretary of the Association and was reelected without opposition.

* * *

A high compliment was given to Dr. Wm. J. Mayo of Rochester, when he was elected President of the Association by acclamation.

* * *

A large number attended from Illinois. Their names will be found on page 180.

* * *

Dr. J. B. Murphy did not attend because of Brachial Neuralgia. He is at Glenwood Springs, Colorado.

* * *

Dr. Frank Andrews suffered painful injuries to both ankles while doing the "trail" at the Lewis & Clark Exposition.

* * *

In our next issue we will have something to say on the health and pleasure resorts of the West.

THE YELLOW FEVER SITUATION.

For the first time since 1897, an epidemic of yellow fever prevails in New Orleans and neighboring ports upon the Gulf Coast, and threatens the country lying to the north.

The usual excitement exists and shot-gun quarantines have been instituted between the various communities of the Southern States and inspections of the railway and steam-boat passengers have been instituted at Cairo, Illinois, by the State Board of Health.

To all appearances the results of the scientific work done in Cuba and Mexico have been forgotten and the old idea of the contagiousness of yellow fever has been reinstated with all its resulting hardships.

If the mosquito theory of the transmission of yellow fever is true all quarantine and detention of infected persons elsewhere than in properly situated and screened hospitals is a form of cruelty not creditable to twentieth century civilization. The frenzy of officials of various States who are resorting to discarded methods of dealing with present conditions shows that they do not keep in touch with modern thought. Besides their action however well intentioned but mistaken is disastrous to the business interests of the country.

We shall watch with great interest the developments of this disease and sincerely trust that the order of President Roosevelt turning over the whole management of the epidemic in the South to the Marine Hospital Corps will result in its speedy extinction. We believe it will as the work done by the corps is in the proper line that is of destroying the dangerous mosquito and screening the yellow fever patients themselves.

THE NEW PHARMACOPOEIA.

The J. B. Lippincott Co. of Philadelphia have just issued the new United States Pharmacopoeia. Among the alterations which should be known to all practitioners, we call

attention to the changes in strength of the following preparations:

The strength of Tincture of Aconite has been reduced from 35 per cent to 10 per cent, and that of Tincture of Veratrum from 40 per cent to 10 per cent. The strength of Tincture of Strophanthus has been increased from 5 per cent to 10 per cent.

These changes have been made in order to conform to the standards adopted by the International Conference on Potent Remedies held at Brussels in September, 1902, the object being to make uniform the strength of potent remedies in all parts of the world.

A large number of synthetic remedies have been admitted, not under their trade or commercial names, by which many are well known to the profession, but, in most cases, under names approximating their true chemical names. Thus Phenacetin is admitted as Acetphenetidum, a name which shows at once that this substance belongs to the great group of phenetidin compounds.

Aristol is admitted as Thymolis Iodidum, showing that it is an iodine compound of thymol.

3. Additions.—There are 117 additions in the Eighth Decennial Revision of the U. S. Pharmacopoeia; among these are representatives of all classes of drugs. There is, for instance, a larger number of synthetic remedies than ever before. The principles involved in the pharmacopoeial terminology of these have already been discussed. The active principles of a number of drugs have been admitted; this permits of more accurate dosage and their use obviates the necessity of administering inert and often undesirable constituents of the crude drug. New salts of well-known drugs have been admitted on account of their greater stability or solubility. Inasmuch as the discovery of diphtheria antitoxin is perhaps the greatest achievement in therapeutics in the last quarter of a century, the Serum Antidiphthericum is a very notable addition to the Pharmacopoeia; not only is this substance made official but a definite American standard for it has been fixed.

(To be continued next month.)

Correspondence.

WISHES PLAIN LANGUAGE.

Editor Illinois Medical Journal:

Please permit me, as a member and reader of this journal, to protest against the increasing tendency of the members of our profession to coin new words. I believe in progress, but to operate a patient and vibrate him and to give him claudication where a little limping exists, I should call it pseudo-progress. Look over the proceedings of the various medical societies reported in the Journal and one sees these evidences staring him in the face. Then we also have the custom of giving some medical man's name to an operation or procedure, and then in talking about it, taking it for granted that everyone who hears, or reads, is just as familiar with every step as the speaker, a conclusion which is far from true. Are the gentlemen who live and practice in Chicago so driven that they cannot pause long enough to describe to us what they have to say in understandable English? If so, would it not be as well to strike a slower pace? If we are to maintain the honor and dignity of our profession, let us not appear as illiterates who are at the same time trying to add all sorts of words to our mother tongue. The desire to coin new names for diseases seems to go hand in hand with a growing inability to use the English language in a manner that will impress your ideas upon others. To illustrate this, you have only to read several accounts of new and rather intricate operations by various medical men to see how hopeless it often is to follow them understandingly.

Yours fraternally,

S. J. BUMSTEAD.

Decatur, July 7, 1905.

COMMENDS PETTIT'S CAMP.

Edgewater, Colo., July 22, 1905.

The Illinois Medical Journal:

DEAR SIR: I wish to thank you for the carefulness in printing my article in the February, 1905, number. I believe I am in arrears in my account with you, but have not

received a bill. Inclosed find check for \$2.00, which I am sure I owe you. Would you wish an article on the disadvantages of Colorado as a place for consumptives? It seems to me, and is driven into me daily, that the profession at large should know something of the disadvantages as well as the advantages when taking the matter of sending a patient here into consideration.

I recently visited Dr. Pettit's camp at Ottawa. He is certainly doing a fine work, and it should make an appeal to the people of Illinois that could not be restrained. That tuberculosis can be treated in Illinois with equal results to that attained in Colorado is no doubt whatever in my mind.

I am, yours sincerely,

W. H. WATTERSON, M. D.

TRUTH TOLD BY BAD SPELLING.

A gentleman making an application for insurance, named as beneficiary a lady not related to him. The insurance company asked him to give his reasons for so doing, and he wrote them as follows: "I intend marrying her in the near future."

JOHN ROSS, M. D.

Pontiac, Ill., July 28, 1905.

News Items.

Dr. G. W. Fuller of Palestine has removed to Paris.

Dr. I. N. Smith of Auburn, has removed to Toluca.

Dr. A. L. Volpar has removed from Alexander to Homer.

Dr. W. R. Baker has removed from Urbana to Homer.

Dr. R. H. Brown of Huey has removed to Centralia.

Dr. Waltman has located at Kampsville, Calhoun county.

Dr. C. F. Randolph of Danvers has removed to Bloomington.

Dr. W. A. Skul of Belleview has sold his practice to a Dr. Berry.

Dr. E. J. Burch of Cerro Gordo has removed to 516½ Hampshire street, Quincy.

Dr. J. S. Kenelly of Easton suffered a broken leg from a runaway accident July 27.

Dr. A. E. Williams of Hospital has removed to 322 19th street, Rock Island.

Dr. H. W. Long has removed from Newton to 517 Veronica avenue, East St. Louis.

Dr. Marie Jean Stees has removed from Freeport to Room 801, Savings Bank building, Chicago.

Dr. A. P. Ohlmacher has been appointed Director of the Biologic Laboratories of Frederick Stearns & Co., Detroit, Mich., and has entered upon the active duties of the position.

Dr. L. J. Pritzker has returned from a year's stay in Europe to his residence, 682 N. Hoyne avenue, Chicago. During his absence the Doctor attended clinics in Berlin, Vienna, Buda Pest and Dresden.

By an error it was made to appear that the paper of Dr. Clarence Webster, printed in our July issue, was read at the meeting of the State Society at Rock Island. Dr. Webster we are informed, did not attend the annual meeting.

Dr. J. Harvey Banks of Lincoln, was recently sued for divorce by his fourth wife, Mrs. Maud Banks, who is said to be pretty, twenty-one years of age and twenty years the junior of her husband. The doctor is said to be considerably deformed, having lost both legs above the knees through a railway accident.

Marriages and Deaths.

Thomas M. Aderhold, M. D., Ziegler, Ill., to Miss Mae Sinicka of Chicago, at DuQuoin, Ill., June 21.

Robert G. Allen, M. D., Washington, Ill., to Miss Anna Forward of Maryland, June 26.

Bruce Taylor Best, M. D., Arlington Heights, Ill., to Miss Edith Genevieve Stevens of Jefferson, Wis., June 14.

John A. Collins, M. D., East St. Louis, Ill., to Miss Mollie B. Marshall of Lebanon, Ill., June 21.

Samuel A. Crabtree, M. D., to Miss Emma Alice Reynolds, both of Tolono, Ill., July 26.

B. Barret Griffith, M. D., Springfield, Ill., to Miss Sarah Adelia Giddings of Colorado Springs, Colo., June 28.

Harry G. Hardt, M. D., Hospital, Ill., to Miss Beifus of Chicago, June 21.

William Nelson MacChesney, M. D., Chicago Heights, Ill., to Miss Harriet A. Darnell of Storm Lake, Iowa, June 21.

William H. Reedy, M. D., Towanda, Ill., to Miss Nellie Fincham of Bloomington, Ill., June 29.

John F. Sloan, M. D., to Miss Sarah McDonald, both of Brimfield, Ill., July 24.

Alvin B. Snyder, M. D., to Miss Elizabeth Sinclair, both of Chicago, June 26.

Duncan Frazier Stewart, M. D., Neponset, Ill., to Miss Adelaide Victoria McIntire, at Chicago, July 6.

George H. Willis, M. D., to Miss Ethel B. Fahr, both of Winslow, Ill., June 14.

Charles McCaw Wood, M. D., to Miss Mary Stroud Swan, both of Maroa, Ill., June 28.

DEATHS.

James C. Bristow, M. D., University of Louisville Medical Department, 1872, died at his home in Wayne City, Ill., July 16, aged 81.

Fred Brittin, M. D., died at the residence of his parents, Mr. and Mrs. F. E. Brittin, 1108 S. Second street, Springfield, at 11:30 a. m., Monday, July 31, 1905, aged 28 years.

D. C. Dunn, M. D., Louisville Medical College, 1872, a member of the local board of education, and justice of the peace, died suddenly at his home in O'Fallon, Ill., July 23, from cerebral hemorrhage, aged 61.

Edwin Stanton, Fowler, M. D., University of the City of New York, formerly of Springfield, Ill., died at the North Shore Health Resort, Winnetka, Ill., July 11, aged 77.

Benjamin Franklin Gardner, M. D., Cincinnati, 1860, surgeon during the Civil War, died at his home in Atlanta, Ill., July 21, from senile debility, aged 87.

James F. Gary, M. D., St. Louis, 1878, died at his home in Delhi, Ill., June 19, after a lingering illness, aged 55.

Henry Hatch, M. D., Louisville Medical College, 1872, of Quincy, Ill., a member of the American Medical Association, Illinois State Medical Society, Adams County Medical Society, International Association of Railway Surgeons, Mississippi Valley Medical Association; fellow of the American Academy of Railway Surgeons, president Tri-State Medical Society in 1901, surgeon to the Burlington system; consulting surgeon to Blessing Hospital, Quincy; consulting physician to Woodland land Home for Orphans and Friendless and Anna Brown Home for the Aged; from 1882 to 1887 professor of principles and practice of medicine in the medical department of Chad-dock College, and president of the school board of Griggsville in 1875 and 1876, one of the most prominent practitioners of western Illinois, died at Blessing Hospital, Quincy, from pernicious anemia, July 24, after an illness of six months, aged 57.

Charles H. Hitchcock, M. D., Cincinnati, 1857, for many years a prominent practitioner of Aurora, Ill., died at his home in that city, June 28, after an extended illness, aged 74.

Selina H. Miller, M. D., Missouri, 1886, died at her home in Lincoln, Ill., June 22, aged 73.

T. J. Mitchell, M. D., of Bement, died August 3, of dropsy, aged 82. He is survived by his wife.

Eugene B. Perry, M. D., Rush Medical College, Chicago, 1880, died at his home in Melvin, Ill., June 22, from uremia, after a short illness, aged 61.

David Wilkins, M. D., University of Michigan Department of Medicine and Surgery, Ann Arbor, 1853, surgeon of the One Hundred and Thirtieth Illinois Volunteer Infantry, during the Civil War, for 51 years a resident of Greenville, Ill., died at his home in that city from cerebral hemorrhage, July 23, after an illness of two months, aged 76.

County and District Societies.

ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

Officers.

President.....Jno. A. Koch, Quincy
First Vice Pres.....J. M. Grimes, Camp Point
Second Vice Pres.....H. Hart, Quincy
Secretary.....Geo. E. Rosenthal, Quincy
Treasurer.....R. J. Christie, Quincy
Censors—Jos. Robbins, L. B. Ashton, E. B. Montgomery, Quincy.

Delegate to the State Society, L. H. A. Nickerson, Quincy.

Alternate to the State Society, R. J. Christie, Jr., Quincy.

The Society met at Quincy, Ill., July 10th, with President Koch in the chair.

Those present were: Drs. Bates, Christie, Gilliland, Grimes, Hart, Koch, Knox, Montgomery, Nickerson, Pfeiffer, Robbins, Rise, Rosenthal, Williams, J. G., and Zimmerman.

Dr. Zimmerman reported a case of "Pan-Hysterectomy and Appendectomy for a Right Sided Pyosalpinx and Chronic Appendicitis," as follows:

Mrs. P., age 28, married at 18 and has given birth to two children. Up to 23 years of age menstruation has always been regular and free from pain. First child was born during patients twenty-third year. No trouble connected with or followed this labor. From her 23rd to 25th year she had three miscarriages. Does not know cause of same. Following the last miscarriage the patient was anaesthetized, but does not know what treatment she received. Shortly after this treatment she became pregnant again and her last child was born when patient was 26 years of age. Was in labor 62 hours, but no instruments were used to deliver the child. In bed 15 days following labor, but no fever. When menstruation came on again it was regular, but profuse.

Present Illness: The history I received from the patient about her present illness was a very poor one, but it was the best I could obtain from her. She denies any gonorrheal attack, but states that last winter she began to have a muco-purulent discharge from the vagina, which however, was not very profuse. Menstruation from now on was painful, lost more blood than usual. From about the beginning of April up to the time she came into my care on May 15th, she has had numerous severe attacks of pain in the right inguinal and hypogastric region, accompanied by fever and vomiting. Was practically confined to her bed all this time and lost about twenty pounds in weight according to her statement.

General Examination: Appearance sallow and exhausted. Heart, lungs and urine normal. Temperature 100, pulse rate 110. Vaginal examination—considerable quantity of purulent discharge from the uterus. Difficult to get cervix into the speculum, since it was drawn to-

wards the right side and firmly fixed, this condition being due to an old right sided cervical laceration extending up into the vaginal vault. The cervix was eroded and bled freely when handled, this condition probably being due to the quantity of discharge constantly flowing over it. On bimanual examination the uterus was found to be firmly fixed in the pelvis and it was impossible to move it in any direction. The uterus was drawn over towards the right side of the pelvis and the space between the right horn of the uterus and the lateral wall of the pelvis was filled with a large firm mass, very painful on manipulation. The left tube could not be felt.

Nothing further could be made out of rectal examination. The patient's temperature from the date of entrance into the hospital May 15th until the date of operation, May 19th, ranged from 99½ to 100 degrees and the pulse rate from 108 to 115.

Taking into consideration pulse rate and temperature and the purulent discharge from the uterus the large mass in the region of the right tube and the pain and tenderness over the same, a diagnosis of Pyosalpinx (specific) was made and on account of the attacks of vomiting and the frequent association of appendicitis in cases of this kind, a diagnosis of appendicitis or intestinal kinking from intestinal adhesions was made.

The cervix was considered suspicious of malignancy, although the condition of erosion was thought probably to be due to the amount of discharge flowing over it.

Dr. Montgomery saw the patient the next day following my examination and came to the same conclusions and assisted me in the operation. A complete hysterectomy was advised and the abdominal route chosen on account of a possible appendicitis and the intestinal adhesions which I expected to encounter, and it is best to deal with these under the eye as much as possible.

On May the 19th the abdomen was opened and the patient placed in the Trendelenberg position. The right tube was found enlarged thickened and distended with pus. It was firmly bound down to the intestines and the appendix infiltrated and rigid was also fixed to the tube. Appendix was separated and removed, and then the uterus and tubes, etc., were made free and a complete hysterectomy performed. Considerable bleeding took place from the separated adhesions, which was controlled by flushing out the abdomen with a hot saline solution. A considerable quantity of the saline solution was left in the abdomen and abdominal wound closed with through and through silk worm sutures. Vaginal gauze drainage combined with postural drainage was used. The patient was removed from operating room in a state of shock, and was in a dangerous condition for several days.

She rallied, however, and has made a good recovery.

First gauze drainage was removed in five days and the wound mopped out and fresh gauze replaced. These dressings were changed daily and at the present time patient is using one cleansing douche daily for a slight vaginal discharge. She is up and about, gaining in weight and in a short time will be perfectly well.

The paper and operative results were favorably commented upon by Drs. Robbins, Gilliland, Montgomery, Nickerson and Christie.

Dr. Christie thought the shock in hysterectomy overestimated. It being due to the anaesthetic, length of the operation, haemorrhage and manipulation.

Dr. Hart believed that the element in the production of shock was loss of blood. In hysterectomy by the vaginal route there is but slight haemorrhage and consequently little shock.

Dr. Gilliland considered that a great factor in the production of shock was the exposure of the intestines to the atmosphere, such exposure by the vaginal route being reduced to a minimum.

Dr. Rice moved that the Legislative Committee draft and place in the hands of an alderman, an ordinance making it obligatory that City Board of Health consist of Physicians. Carried.

Adjournment.

Geo. E. Rosenthal,
Secretary.

CRAWFORD COUNTY MEDICAL SOCIETY.

Regular meetings are held bi-monthly on the second Thursday. Membership 24.

Officers.

President.....Dr. Frank Dunham
Vice-President.....Dr. L. R. Illyes
Secretary.....Dr. H. N. Rafferty
Treasurer.....Dr. C. Barlow
Board of Censors: Dr. G. W. Fuller, Dr. C. H. Voorheis.

Committee on Arrangements: Dr. I. L. Firebaugh, Dr. C. Barlow, Dr. H. N. Rafferty.

The Crawford County Medical Society held its Twenty-Fifth Annual Meeting in Robinson, on Thursday, July 13, 1905.

The afternoon session convened at 2 P. M., at the First Presbyterian Church, with Dr. C. H. Voorheis as President Pro Tem.

Those present from the county and from outside were as follows:

Drs. I. L. Firebaugh, C. Barlow, E. L. Birch, C. M. Eaton and H. N. Rafferty, of Robinson; Drs. C. H. Voorheis, J. B. Cato and William Eaton, of Hutsonville; Drs. E. M. Cooley and J. W. Kirk, of Oblong; Drs. G. W. Fuller and J. A. Ikemire, of Palestine; Dr. J. E. Midgett, of Flat Rock; Dr. C. E. Price, of Eaton; Dr. W. K. Newcomb, of Champaign; Dr. S. Joseph, of Melville, Ia.; and Dr. Geo. R. Fowler, of Elizabethtown, Ill.

The present officers were re-elected for the coming year, as above.

The Secretary read the following annual report:

Number of meetings held during year, 6.
Number of meetings missed during year, none.
Largest attendance at any one meeting, 14.
Average attendance for fiscal year, 9.
Number of fully paid up members, 22.
Number joining Society during year, 2.
Number of resignations from membership, 1.
Number of deaths during year, 1.
Number of eligible physicians in County not members, 9.

Number of papers read during fiscal year, 10.
Number refusing to furnish papers, none.
Amount of funds received from various sources, \$59.

Amount of funds forwarded to Secretary State Society, \$31.50.

Amount paid to Treasurer County Society, \$27.50.

After the transaction of other business the afternoon program was taken up, as follows:

1. "Gastric Ulcer".....Dr. E. M. Cooley
Discussion opened by Dr. G. W. Fuller.

2. "A Consideration of Fractures"
.....Dr. I. L. Firebaugh
Discussion opened by Dr. J. B. Cato.

3. "Summer Diarrhoeas in Children"
.....Dr. C. H. Voorheis
Discussion opened by Dr. J. E. Midgett.

4. "History of Our Society"...Dr. C. E. Price

These papers were all of a high order, thoroughly practical and up to date, and deserve to be read before the next meeting of the State Society.

The first two papers elicited quite a general discussion, which is one of the best features of our society meetings. The discussion of Dr. Voorheis' paper was cut short, owing to lack of time.

It was moved and carried that the Secretary be given an order on the Treasurer for \$12.10 as postal expenses for two years.

It was moved and carried that a special assessment of \$2 be made upon every member of the Society, to cover expenses of the banquet.

The Society adjourned at 6 o'clock to meet at 8 P. M. at the beautiful home of Mrs. Charles F. Wilson, where an elegant five course dinner was served.

After the festal board had been cleared, the following toasts were responded to, Dr. Edward L. Birch serving as Toastmaster:

"Welcome".....C. Barlow, M. D.
"The Doctor as a Citizen"...J. A. Ikemire, M. D.
"The Doctor and The Dentist"

.....A. G. Stephens, D. D. S.
"The Doctor in Politics"...W. K. Newcomb, M. D.
"A Rolling Stone Gathers No Moss"

.....I. L. Firebaugh, M. D.
"But a Setting Hen Never Gets Fat"

.....G. W. Fuller, M. D.
At the conclusion of this flow of wit and humor, the guests adjourned to their respective homes, each voting this to be the banner meeting in the twenty-five years existence of the Crawford County Medical Society.

DECATUR MEDICAL SOCIETY.

Regular meetings are held in the Decatur Club Rooms the fourth Tuesday of each month
Membership 62.

Officers.

President, Everett J. Brown.....Decatur
Vice-President, Ellen F. Grimes.....Decatur
Secretary-Treasurer, Benjamin Bachrach.....
.....Decatur
Board of Censors: S. E. McClelland, Lynn M. Barnes, Cass Chenoweth.

Tuesday, June 27, 1905, The regular monthly meeting of the Decatur Medical Society was held in the Decatur Club Rooms, with the President, Everett J. Brown, in the chair.

Dr. L. P. Walbridge who recently returned to Decatur after a stay of ten years in St. Louis, during part of which time, he was on the Board of Health and also served in a medical capacity at the world's fair; read a paper on the **Medical Department of the World's Fair at St. Louis**, there was much of interest in the paper and it was appreciated by the members.

Dr. H. C. Jones read a paper on **Foetal Death from Looping of the Cord**, and reported a case, where the foetus had been carried to full term after a supposed death at the seventh month the entire contents of the womb were expelled in one mass, the unruptured sac and placenta being closely adherent, incision of the sac, revealed the cord looped a number of times around each leg of the foetus.

Dr. Lynn M. Barnes read a paper on the **Prevention and Treatment of Fourth of July Tetanus** it was well received and discussed freely, he laid great stress on the thorough cleansing of blank cartridge wounds, and the early administration of Tetanus Antitoxin, advising its use as soon after the injury as possible. Several members told of cases they had treated, and the Society decided that although the newer remedies in the treatment of this disease were very valuable, the older preparations were not to be forgotten. *Passiflora incarnata* was mentioned by several as a very useful drug in Tetanus and should be given freely in large doses.

Resolutions were adopted urging the mayor and city council to exercise whatever power and authority they possessed, to control and limit the thoughtless and careless use of explosives on the approaching national holiday.

The following were elected to membership in the Society: L. P. Walbridge, N. L. Bourne, J. T. McDavid, S. L. Thorpe all of Decatur. S. L. Stevens, Dalton City; C. A. Miller, Boody; W. J. Saling, Stonington.

The regular monthly meeting of the Decatur Medical Society was held in the Decatur Club rooms Tuesday, July 25, at 8 p. m.

The program for the evening consisted of "A Brief Review of Some New Things in Medicine."

The first paper read was by Dr. C. Martin Wood on "Salt Reduction and Water Restriction in Heart and Kidney Disease."

The next by Dr. Clare Garber on "The Dan-

gers of a Milk Diet in Chronic Bright's Disease."

These papers were both discussed freely and several members reported cases which strongly exemplified both titles.

Dr. M. W. Fitzpatrick concluded the program with a paper on "The Open Treatment of Burns."

Two amendments to the by-laws were proposed, one in regard to the appointment of a board of censors by the president, and the other in reference to the proposing and selection of new members.

On motion of the Society, a committee of three was appointed by the president to draw up resolutions of condolence for our recently deceased member, Dr. David T. Kyner, of Blue Mound, Ill., a copy of the same to be sent his family and also published in the papers.

The committee reported the following resolution and it was unanimously adopted:

Resolved, that it is with deep regret that we learn of the death of our highly esteemed co-worker, Dr. David T. Kyner, of Blue Mound, long an honored member of this Society, having been one of the charter members. That we extend to the family and friends our sincere sympathy in their loss, and declare our appreciation of his high character and attainments, his devotion to the best purpose of his profession, and to commend his conduct of life.

He will be sadly missed by the medical profession and by the community in which he lived.

J. H. Randall,

S. E. McClelland,

J. Stebbins King,

Committee.

Attest: Benjamin Bachrach, Secretary.

FORD-IROQUOIS COUNTIES MEDICAL SOCIETY.

Officers.

President S. M. Wylie, Paxton
Vice Pres. D. W. Miller, Gilman
Secretary Robt. Lumley, Watseka

The summer meeting of the Bi-County (Ford and Iroquois) Medical Society, held at Gilman on June 6th, last, was an unqualified success. Despite extremely hot weather, the attendance was large—larger, with a single exception, than at any medical meeting ever before held in this part of Illinois.

Although organized, in affiliation with the State Medical Society, but a few months ago, the membership already includes the name of almost every progressive physician in both counties.

After a banquet, tended the visitors by the Gilman fraternity, and a brief business meeting, the scientific sessions began. The program follows:

1. The President's Address, Dr. S. M. Wylie.
Subject: **Floating Kidney.**
2. **Some Experiences in Typhoid Fever**, Dr. D. L. Jewett.
3. **Acute Mastoiditis**, Dr. Chas. Geiger.
4. **Enteric Diseases of Infancy**, Dr. Robert Lumley.
5. **Report of a Surgical Case**, Dr. E. E. Hester. One of the patient's arms was caught by machinery and subjected to severe stretching,

but without demonstrable lesions of, or pressure upon the blood vessels. An almost complete arrest of the circulation in the injured limb soon occurred, which, later, yielded to appropriate treatment. The literature of cases of this class is said to be very meagre—only one report of a similar case, and that from Russia, could be discovered by the librarian of the Newbury library, of Chicago.

The entire program was of an excellence seldom seen at the meetings of county societies, outside our largest cities. The papers were practical, opportune, and dealt with matters of every day interest—the feet of their readers never left terra firma. The discussion was general, instructive and interesting. But perhaps the best thing about the meeting was its spirit. Jealousy, egotism and self-glorifying vanity were absent or invisible and in their places were good will, comradeship and mutual helpfulness. Every man present was made to feel that his experience should have gained him some knowledge—one talent or ten, should have taught him some things worth telling—that the present was the time and the place to tell them and that he was given a special invitation to do so. The invitation was generally accepted—fallacies were exposed and facts established.

MONROE COUNTY MEDICAL SOCIETY.

Regular meetings held in Waterloo first Monday in June and September.

Officers.

President J. S. Sennott, Waterloo
Vice President M. G. Nixon, Columbia
Secretary E. J. Lee, Jr., Valmeyer
Treasurer N. B. Pautler, Waterloo
Delegate L. Adelsberger, Waterloo
Censors: J. C. Fults, Waterloo; O. Kuehn, Burksville; S. Kohlenbach, Columbia.

The society met in regular session June 5, 1905, with President J. S. Sennott in the chair.

Applications of E. T. Lark of New Hanover and W. J. Rose of Columbia, received and they were elected to membership in the usual manner. Former Secretary Adelsberger then read the minutes of the September meeting of 1904, and attached the following statement:

"In July, 1904, Dr. McNally, of Carbondale, visited Monroe County and succeeded in re-organizing the old Monroe County Medical Society which was granted a charter in 1888, but had held no regular meetings for several years into the present society. Since last year all but five out of 19 physicians in the county have become members."

Motion was then made, seconded and carried that the new secretary, Dr. Lee, send each physician in the county, not now a member a blank application and invite them to become members.

Motion made, seconded and carried that the installations of officers, Pautler, Kolenbach and Nixon be deferred until the next meeting owing to their unavoidable absence from this meeting.

Dr. Fults read a very interesting paper on **Typhoid Fever, with case**, laying particular stress on a limited diet and proper disinfection of all excreta. The case he presented showed

a typical typhoid temperature. No nourishment except boiled milk and plenty of sterilized water was given for eight weeks and though hemorrhage followed, patient made a good recovery, he places his main reliance in the sulpho-carbolates in this malady. Drs. Sennott, Kuhn and Lee took part in the discussion which followed.

Dr. Heidelberg presented a report of an interesting case of **Pleural Effusion**. Girl ten years old operated on and four pints of pus removed some two months ago and at this time discharge amounts to three ounces daily. No odor to present discharge and no depression.

Chair appointed Drs. Pautler, Kolenbach, Lark and Rosa to entertain the society at its next regular meeting in September.

Adjourned.

WAYNE COUNTY MEDICAL SOCIETY.

Regular meetings held in Fairfield the second Wednesdays of January, April, July and October. Membership, 20.

Officers.

President W. M. Johnson, Johnsonville
Vice President J. D. Harlan, Fairfield
Secretary J. P. Walters, Fairfield
Treasurer F. Bean, Fairfield
Censors: T. J. Hilliard, Jeffersonville; W. C. Sibley, Fairfield; B. E. Garrison, Wayne City.

The Wayne County Medical Society held its regular meeting in the office of Drs. Walters and Harlan, Wednesday, July 12, 1905, the president, Dr. W. M. Johnson, in the chair.

The meeting was called to order at 2 p. m. Members present, Drs. B. E. Garrison, Wayne City; C. O. Truscott, Cisne; J. E. Dixon, Sims; T. J. Hilliard, Jeffersonville; W. M. Johnson, Johnsonville; F. Bean, W. C. Sibley, Hal Moran, J. D. Harlan and J. P. Walters, Fairfield.

After some business pertaining to the welfare of the society was disposed of, Dr. J. D. Harlan gave his method of treatment and care of patients suffering from summer diarrhea, limiting his remarks to this disease in children. The discussion of this subject was spirited, and was engaged in by all present. Some of the members present considered the disease an inflammatory trouble, and used opiates, while others contended that it was not inflammatory, especially in the earlier stage, and think it dangerous to use opiates, but relied on eliminating the products of fermented food, and intestinal antiseptics. All were of the opinion that the disease is due to heat and improper diet.

Under the subject of "Report of Cases," Dr. J. P. Walters had a patient before the society who is suffering from a tumor situated in the deeper structure of the upper and outer portion of the thigh. All the members of the society present, examined the case, and entered into a free discussion about the patient had retired.

Dr. C. O. Truscott introduced the subject of intestinal parasites, claiming as his opinion, that there is a much less demand for anthelmintics today than there was twenty-five or thirty years ago, and asked for remarks on this subject by the older members of the society.

Dr. W. M. Johnson said that thirty-five to fifty years ago, when people were not as careful in living as now, almost everybody using surface water, he had almost as many calls to prescribe for worms as for chills, and his prescriptions were about as likely to bring worms as his prescriptions for chills were to break the chills, and had to be repeated almost as often. Dr. B. E. Garrison said he thought the lack of calls for anthelmintics is due, to a great extent to the fact that nearly everybody understands the symptoms for worms, and buys some of the patent nostrums, instead of going to his family physician.

Under the head of "Report of Committees" it was found that the committee appointed to confer with the county court in regard to pauper practice is not yet ready to report; that the greatest and the worst hindrance to the success-

ful work of this committee is the failure to get all the physicians in the county to become members of this society, so as to be a unit in a work of such magnitude and of so much importance.

Motion by Dr. J. E. Dixon that the secretary of this society procure a good speaker from among our professional brethren to deliver an address to the general public on the second Wednesday night of October next, the secretary to procure a place for the meeting. Subject: **The Relation that Should Exist Between the Physician and the Public.** Motion prevailed.

Moved and carried that the secretary read, at our next meeting, **Principles of Medical Ethics of the American Medical Association.**

Adjourned to meet at Walters and Harlan's office, October 11, 1905.

Chicago Medical Society.

The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building.

OFFICERS:

C. S. BACON, 426 Center Street	President
FRANK X. WALLS, 4307 Ellis Avenue ...	Secretary
A. E. HALSTEAD, 2937 Indiana Avenue.....	Treasurer
W. A. EVANS, 103 State Street.....	Chairman Medicolegal Committee
WM. HARSHA, 103 State Street.....	Chairman Membership Committee

AUGUST, 1905.

SENSORY NERVE ENDINGS AT THE ENTRANCE TO THE LARYNX WITH SPECIAL REFERENCE TO THE STRUCTURE AND FUNCTION OF THE TASTE BUDS.

By Dr. J. Gordon Wilson.

(Extract.)

Laryngologists are apt to regard the function of the larynx as essentially for voice production, and to overlook the fact that it has another function of great importance in the animal economy, a function compared with whose antiquity the voice is but a thing of yesterday, namely, the protection of the respiratory passage from irritants and during swallowing. The closure of the larynx is the one never-failing office of the larynx; the arytenoid cartilages and their muscles are the only ever present structures. "The original function of the vocal

cords was to protect the air passages—speech being a superadded function."—Bland Sutton. In birds the function of the larynx is to guard the trachea, the vocal function is entirely removed from the larynx.

In order to effect this closure the vestibule of the larynx is extremely sensitive; from an anatomical point of view this fact is recognized by the number and variety of its sensory nerve endings. This is the more impressed on one when a comparison is made between the relative number and distribution of the endings on the lingual with those on the laryngeal surface of the epiglottis—the laryngeal far surpassing in variety and number the lingual.

In addition there is lodged in the vestibule of the larynx a sense of which few are aware, the sense of taste; a special sense whose presence is strongly upheld by some and equally strongly denied by others. All are agreed that over the upper part of the laryngeal mucous membrane taste-buds are distributed, comparable to those of the tongue, but they still remain

mysterious organs about which little has been written and about whose function we are still in the region of conjecture.

The nerve trunks which carry fibers to the vestibule of the larynx are well known; but with regard to their central origins and their peripheral terminations much has yet to be done. The main nerve supply is the superior laryngeal. By this means there are conveyed fibers from three distinct sources, from the vagus, from the glosso-pharyngeus, and from the sympathetic. While the nerve branches are chiefly distributed on the side to which they belong, numerous fibers can be traced across the middle line, and after section of the superior laryngeal on one side, nerve degeneration is seen on the other side of the middle line. The main branches break up into sub-epithelial plexuses, from which arise the nerve endings.

The nerve endings may be divided into two groups, sub-epithelial and epithelial. The sub-epithelial group presents both encapsulated and un-encapsulated varieties. The encapsulated are chiefly modified Meissner corpuscles, nerve coils, and some varieties difficult to classify. The unencapsulated are chiefly tree-like endings, but Ruffini endings and coils can also be seen. Of all these varieties the most numerous are the tree-endings.

The epithelial nerve endings are present in three varieties—first, in ciliated epithelium; secondly, in stratified epithelium; thirdly, in connection with the taste buds. In all these forms the varieties of endings are non-medullated and varicose.

Drawings were shown of all these varieties of nerve endings.

The taste-buds lie in the stratified squamous epithelium. They are not concealed in furrows as in the Circumvallate papillae of the tongue, but lie on an exposed surface. They are comparable in structure to those of the tongue. They are abundantly supplied by nerves—around the bud (perigemmal) within the bud (intragemmal), and at the base (subgemmal).

The two principal hypotheses in regard to the functions of these buds were discussed, namely:

1. As to whether they were mere phylogenetic residues—this hypothesis resting on the decrease which is apparent from a comparative study of the taste-buds in vertebrates, and on the restriction of area which occurs in man at various stages of development.

2. Whether they were reflex organs to intensify the closure of the larynx during the passage of food—a hypothesis which is based upon the abundant nerve supply, their localization, and their functional activity.

JOINT MEETING OF CHICAGO MEDICAL AND CHICAGO GYNECOLOGICAL SOCIETY.

Premature Placental Detachment. (Abruptio Placentae.)

By Joseph B. De Lee, M. D., Chicago.

Professor of Obstetrics, Northwestern University Medical School; Consulting Obstetrician to Cook County Hospital; Attending Obstetrician to Wesley, Mercy, and Provident Hospitals. Obstetrician and Medical Director of the Chicago Lying-in Hospital and Dispensary.

In normal labors separation of the placenta does not usually commence until the child has been delivered. It may, however, normally begin as the trunk of the child is passing through the vulva. Observations in cases of Caesarean section have shown the placenta separating as the child was removed, and also, that it remains generally attached till the contraction and retraction of the actual third stage have begun.

We may, therefore, speak of premature placental detachment in all cases where the placenta separates, in whole, or in part, from its attachment to the uterus, before the head of the child has been delivered. In breech cases the same definition will apply, and is even more applicable from a clinical standpoint.

Under the terms of this definition we may include several examples of detachment of the placenta.

First. Placenta previa. Placenta previa is the development of the placenta in the lower uterine segment, in the zone of dilatation. When such dilatation begins, the placenta begins to separate and hemorrhage results. This form of detachment is not to be considered in this paper.

Premature detachment of a placenta situated low in the uterus may give rise to symptoms of placenta previa and also of premature detachment, as it is to be considered in this paper.

Second. The placenta may separate during the last few minutes of the second stage of labor. The child is delivered, dead or in a state of asphyxia depending on the length of time since the interruption of its circulation took place. The exit of the child is attended by a gush of blood and often followed immediately by the placenta. Such cases are not rare. They often explain the cause of a still birth in an apparently normal labor. A short cord may be the underlying cause, or the unruptured membranes, pushed before the drawing head may draw the placenta after it. Constant watch of the fetal heart tones in the second stage will do much to discover the danger to the fetus and enable one to save the child by immediate delivery.

Similar to this form of detachment is the premature separation of the placenta in breech cases while the trunk is being delivered. The clinical importance of the occurrences is slight.

Third. The separation of the placenta in twin cases after the delivery of the first child requires early diagnosis and quick treatment. Both mother and child are here endangered. The condition is recognized by the appearance of external hemorrhage and the change in the heart tones of the second child.

Fourth. In shoulder presentations, in prolonged labor in head presentations, the placenta not seldom separates before delivery. Experience has shown that in such cases the danger of hemorrhage is not great, probably because the uterus is contracting forcibly and holds the placenta firmly against the presenting part, and because the contracted and retracted uterus mechanically closes the vessels in the placental site.

In performing version the writer has felt the placenta rise off the uterine wall under his hand. In these cases the child was saved only by rapid delivery.

Finally there is the premature detachment of the normally implanted placenta in pregnancy or early in labor. This means just what it says, but the phrase is cumbersome and one would wish for a shorter term, to use in apposition to placenta previa the other most common form of obstetric hemorrhage.

Rigby, in 1776, was the first sought who to separate the hemorrhages due to placenta previa from those arising from premature detachment of the normally implanted placenta. He described the symptoms and findings appropriate to each, but some of his cases were evidently combinations of the two pathologic states.

Nevertheless he had a clear idea of the two conditions as they existed in types. The one he called "unavoidable hemorrhage," because the flow inevitably followed separation of the placenta situated in the zone of dilatation, as the result of the necessary dilatation, i. e. placenta previa.

The other, Rigby called "accidental hemorrhage," because the hemorrhage resulted from an accidental separation of the placenta due to some external circumstance, as "violence, peculiar laxity of the uterine vessels, badness of habit, or fever, or influence of the passions on the mind."

The English still retain this term, "accidental hemorrhage," to express what we call, (and the Germans too) premature detachment of the normally implanted placenta. Certainly a less cumbersome term is desirable, and R. W. Holmes has suggested *Ablatio Placentae*. A latin term that more nearly expresses the anatomical conditions present would be *abruptio placentae*, from *ab*, away, from and *rumpere* to break off, or tear off. *Ablatio* means to remove or destroy. Neither term expresses prematurity, or that the placenta is normally situated, although *abruption* conveys a sense of suddenness or unexpectedness.

Etiology. The causes of this condition are variously given. Accident plays a certain role, but not such an important one as has been be-

lieved. Probably in most cases the accident has acted on a diseased uterus, or decidua or placenta, or in the presence of constitutional disorders as hemophilia or scurvy. Mechanical causes of separation occurring during labor as a short cord, have already been mentioned.

The best proven causes of abruption of the normally implanted placenta are, endometritis decidua, nephritis, acute and chronic disease of the uterine wall. Isolated cases are reported where hemophilia, Basedow's disease, acute hemorrhagic infectious diseases, were present. Under such circumstances any trauma, however trivial, even the disturbance of the circulation due to mental excitement, may cause the initial bleeding. Once a separation of the placenta begun it is easy to understand how it may become complete.

That a healthy uterus can distend sufficiently to allow a fatal hemorrhage within it has been denied by Schroeder and others. The normal uterus is not filled by the growing ovum, and a hemorrhage, or some other influence may paralyze its retractility, witness those cases of dilatation of the uterus in the early months of pregnancy.

Frequency. It is impossible to determine the frequency of this accident. If one includes all the varieties of premature placental detachment the occurrence is very common.

If one specifies only those cases assembled under abruption of the normally implanted placenta they are quite rare, but not so rare as formerly thought. The cases of partial separation of the placenta are not uncommon. Here the condition is often recognized only by finding an old clot in a depression of the placenta. The cases of complete separation of the placenta are very rare and very fatal.

Symptoms. The detachment may be partial or total, and the hemorrhage may be external, or internal, or both. The blood may rise up the placenta in the middle, either bulging the placenta inward or the uterine wall outward. The blood may burst through the membranes into the liquor amnii; it may separate the membranes all around, allowing the ovum to rotate in the uterus so as to bring the placenta over the os, (*prolapsus placentae*); all these are the internal or "concealed" hemorrhages. The blood may trickle down under the membranes and escape externally; this may be the only bleeding (external form), or most of the blood accumulates inside the uterus, only part escapes (combined form.) All these varieties have differing clinical pictures depending on the degree of separation of the placenta, and the amount and rapidity of the hemorrhage.

If the abruption of the placenta is complete the fetus dies, if only partial it may live. If the hemorrhage is slight and external, this may be the only symptom, and the case may possess no threatening aspects at all.

If the separation and hemorrhage are greater the symptoms of anemia and the signs of a hemorrhage into the uterus are present. The latter are sudden and increasing distension of the uterus and of the abdominal wall, tenseness of same, an irregular shape of the tumor, (bulging of the hematoma under the placenta), ten-

derness of the uterus especially at the site of the placenta. The patients usually have a sudden pain, later continuous on one side of the womb. If the hemorrhage is all internal, and copious shock is present in addition to the effects of anemia. This is due to the stretching of the uterus. Sometimes there may be a partial rupture of the uterus as occurred in a case of the writer.

External hemorrhage is present in nearly every case, and in the intervals of the gushes a discharge of serum not infrequently occurs. No diagnostic reliance may be placed on the occurrence of the flow with the uterine contractions or in the interval. In a tense uterus the hemorrhage is more likely to appear externally. In a weak uterus the blood may accumulate more readily.

The amount of blood discharged externally should not be used as a criterion of the severity of the case, only the signs of anemia as indicating the amount of internal hemorrhage may be consulted.

In the differential diagnosis we have to consider, placenta previa, rupture of the circular sinus of the placenta, rupture of the uterus, rupture of a collection of pus into the belly, rupture or torsion of ovarian cyst, and extra-uterine pregnancy. The time assigned to this paper precludes a discussion of these points.

Prognosis. In the mild cases the maternal mortality is not appreciable, but the fetal mortality is high. In those cases occurring near the end of labor the mothers usually recover. In the severer cases, especially in the concealed variety the maternal death rate is about 50 per cent and the fetal 90 per cent. Goodell gives 51 and 94, Holmes 32 per cent and 86 per cent. Goodell's figures for the occult or concealed hemorrhages was 52 per cent, and for the open variety 41 per cent.

Treatment. Few subjects in obstetric practice have as little definiteness regarding proper treatment as has abruption of the placenta. Views of reliable authorities are at utter variance. Time will not permit a discussion of the different views and methods, so the writer will present the following summary of the treatment he recommends, basing the same on his own experience of 12 cases and on a careful study of many cases reported in the literature.

1. If the cervix is effaced and the os dilated deliver at once.

2. If the cervix is effaced and the os only partly dilated, procure complete enlargement of the os by manual dilatation, the Bossi dilator, or by incisions and deliver at once.

3. If the cervix is neither effaced nor dilated deliver at once by vaginal or abdominal Caesarean section.

4. If the symptoms are not very threatening or if the patient's surroundings are not favorable for such radical operative measures, or if the physician has insufficient skill, tampon the vagina very tightly with dry cotton using a large amount, put on an abdominal binder drawing it as tight as possible, using the Spanish windless principle, give ergot and wait.

5. Do not rupture the bag of waters except just before delivery, and if the membranes rup-

ture before this time, immediately fill the cervix with a colpeurynter or Barnes' bag.

6. While performing the above treat the anemia.

7. In the 3d stage of labor be prepared to treat hemorrhage promptly and definitely. The utero-vaginal tampon is very valuable.

In conclusion, two recent cases of abruptio placentae may be reported.

Case 1. Mrs. S., primipara, age 26. Her general history is negative. Endometritic symptoms are present. In her first labor she had adherent placenta with severe post partum hemorrhage from which she nearly died.

She moved to the city from Missouri and while in apparent good health began to flow from the uterus. There was little pain until labor pains came on. There was a slight bleeding for six hours and the patient took to bed.

Examination at this time showed pregnancy of eight and one-half months, a hard, resistant, symmetrical, tender uterus. Fetal heart tones 160 regular, strong. A continuous slight oozing was still taking place, and internal examination showed the cervix effaced and dilated to the size of a quarter. No placental tissue could be felt. Many clots came away during the examination. The patient was suffering from the effects of hemorrhage though the pulse was only 96.

She was immediately taken to Mercy Hospital. On arrival it was found that the external bleeding had ceased, that the signs of internal hemorrhages were less and that strong and regular uterine contractions had set in. Expectancy was therefore performed, but it was doubly watchful.

Nine hours after the first examination the head came down on the perineum and the bag of waters was ruptured allowing the immediate delivery of a deeply asphyxiated child. The placenta followed at once. The child, premature and weighing 5 pounds was revived by means of the tracheal catheter. The placenta is shown in this drawing, the dark area being a tough firmly adherent blood clot. The woman was pale and weak for several weeks but finally recovered, as did also the child.

Case 2. Mrs. A., primipara, age 27; had always been sallow and sickly. Two years ago had a severe infectious tonsillitis which affected her kidneys. Hyperemesis during the early months and when she was pregnant six and one-half months, the feet began to swell, headaches occurred and albumen was found in the urine. Labor began March 21, 1905, during the early morning. The patient was having irregular pains and a severe headache when suddenly the pain in the abdomen became intense and continuous while the headache ceased.

Profuse external hemorrhage appeared, and the patient was prostrated. Examination showed a tense hard uterus symmetrical and tender all over. No fetal heart tones were audible. Vaginally the cervix was tightly closed the vaginal portion long and pointed. The urine was cloudy, dark, scanty and thick with albumen. Vaginal Caesarean section was performed, and the small dead fetus easily delivered; it was followed immediately by the placenta and many

dark clots with fluid blood. Patient recovered.

Since reading the above paper the author has had another case of abruptio placentae, a i-para, suffering from albuminuria, who was delivered by rapid dilation of the cervix and forceps. Both child (three and three-eighths pounds) and mother lived.

34 Washington street.

THE CHICAGO NEUROLOGICAL SOCIETY.

A regular meeting of the Chicago Neurological Society was held April 20. Dr. Moyer, President, in the chair.

Dr. D. O. Hecht, at the request of Dr. Patrick, presented **A Case for Diagnosis (Multiple Sclerosis?)**, with the following history: D. E., a male, 47 years old, of Irish and Welsh descent, but born in the United States, was seen for the first time in March, 1905, at the clinic for Nervous Diseases, Northwestern University Medical School. He is a butcher by trade, has been married 22 years and is the father of 13 children, the last of whom was born five weeks ago (Feb., 1905.) Eight of the children are living and enjoying good health; of those deceased, the first born (twins) died at birth, the third born died of appendicitis, the fifth of spinal meningitis, the 11th of scarlet fever and the 12th was miscarried at the third month.

Family history is negative. Knowledge of the grandparents is lacking; the mother lived to the age of 76 in good health, and the father died at 87. The patient is one of 14 children, but can give no information regarding any of them except two sisters, who are living and well; the others have been lost sight of.

The period of infancy and early childhood was uneventful. The patient was brought up on the home farm until the age of 15, when he left to take up work in the soft coal mines of Ohio, where he applied himself steadily for a period of five years. As a boy he had been singularly free from all illness and the mining occupation had in no way affected his health.

At the age of 21 he came to Chicago and got employment as a laborer in the Stock Yards. During his early experience there, which covered a period of four or five years, he was compelled to do various kinds of work, some of which took him into cool cellars for days and months at a time; but it was before the era of ice machines and the cellars were not nearly so cold as they are now. In 1883, whether from exposure or not, he is unable to say, he suffered from an illness of two weeks' duration, characterized by malaise, headache, dizziness and very slight fever, which his physician pronounced as typhoid fever. The diagnosis may be doubted, since the indisposition was so slight as to not even require his going to bed. He was enabled to return to his former work with his accustomed strength and vigor. Soon afterward, he took up the butcher trade, which he has followed uninterruptedly since.

In 1899 (16 years ago), the patient experienced for the first time, dull, boring pains in the muscles of the small of the back, which came and went at close intervals, and were especially keen upon efforts at bending far forward and

backward or straightening up from a stooping posture. His description of the discomfort reminds one of the lumbago pains. The shoulder, elbow and knee joints have been the seat of localized pain, severe enough at times to be quite distressing, and on several occasions the fifth and sixth intercostal areas on the left side have been invaded. Inquiry reveals that there has been little or no stiffness in the parts affected, but for the most part just enough soreness to interfere at times with work. The painfulness at the elbows often made it very hard for him to hang sheep on hooks preparatory to skinning them. Wet and damp weather were without influence; long sitting or inactivity did not stiffen the parts involved; swelling and other periarticular symptoms were absent.

Eight years ago he received a blow on the right lower jaw, with subsequent development of a superficial abscess of the soft tissue under the right ramus, which after proper drainage caused him no further inconvenience.

Up to the time of the patient's coming to Chicago to work in the "yards," he had been totally abstemious in regard to drink, and a man of modest habits in all things; with his new occupation he took to drinking both whiskey and beer in quantities, and it was not long before he was consuming six or more whiskies a day and as many as ten pails of beer. The practice of this excess was kept up for fifteen years and was brought to an abrupt end in January, 1905. He ascribed his hard drinking to the fact that it did not affect him as it did other men; only occasionally had he been intoxicated; his head may have suffered; his legs never. His sudden quitting had caused him no discomfort. He has sustained no injuries aside from a few bruises and cuts received in the work of killing and skinning live stock. A single gonorrheal infection is admitted; syphilis is strenuously denied; nor does anything in the subsequent history or examination indicate its presence.

Onset of the present illness about six years ago with a sense of weakness and "giving away" in the knees. This was especially felt while carrying sheep into the cellars after they had been killed and skinned. The feeling of uncertainty and weakness increased to a point where after the first year or so he noticed it when walking on the level. Attributing it entirely to his over-indulgence in liquor, he thought it unnecessary to consult a physician, and the fact of his not losing a day from work strengthened the belief that his was but a transitory difficulty. In the act of stabbing and skinning sheep, it was customary to hold them fast between the knees. The strain of this position on the increasingly weak leg adductors, together with self-inflicted cuts on the hands from repeated slips of the knife, caused him enough discomfort and concern to seek medical advice.

About a year ago, his hands, especially the left, began to show signs of shaking, which became so aggravated that drinking from a cup held in the left hand was attended with great difficulty. To lesser degree the right hand was in the same plight. In his opinion, the crude

strength of his hands is not what it was, but it is infinitely better than that of the legs, which have become progressively weaker, until now he regards them unequal to the least sustained strain. Neither rigidity nor dizziness is complained of. At no time during the past fifteen years has he experienced root pains or sensations of numbness, deadness or tingling anywhere in the body.

Sensory disturbances, both subjective and objective have always been and are at the present time conspicuously absent. About six months ago patient found it necessary to wear glasses for reading purposes; vision for distance remains very acute. Hearing and the sense of taste and smell are in no way impaired. There are no bulbar symptoms. There has been no complaint of vesical or rectal disturbance of any kind. The bowels move daily; the appetite is fair; the sleep is good, and there has been no appreciable loss in weight.

Status praesens: The patient is a tall, well-developed, muscular man and weighs about 175 pounds. Examination of the thoracic and abdominal viscera proved negative. There was no temperature; the pulse count was 80. The blood and urine findings of a single examination was negative. The special senses show nothing of interest. There is no anomaly of speech. The cranial nerves are nowhere involved and the fundi oculorum reveal no changes. There is no nystagmus. The entire clinical picture is evolved from motor premises and the gait immediately attracts attention. It impresses one as spastic, wobbly and uncertain, as if the knees were giving away and unable to keep the feet in the line of direction. The eyes are held riveted to the floor, as is the habit in tabes, and the heels, which are brought to the floor first, come down hard enough to jar the whole body. The shakiness in the limbs is more noticeable to the patient in turn-about movements and when he first gets up from a chair and starts off. The Romberg sign is not present.

In the recumbent posture, the incoordination of the lower limbs appears still more marked. Attempts to fix the right heel to the left knee are not successful, and the same holds good in fixing the left heel to the right knee. The excursion to the knee is good, but a violent jerking and floundering about attends the effort to hold it fixed. After repeated trials some of the unsteadiness is overcome and fixation meets with partial success. Control in this maneuver is also better with the clothes and shoes on, since their weight is prone to limit the irregular jerking movements.

With the patient on his back, the legs raised and spread widely apart, the limbs and trunk oscillate in all directions in a most disorderly fashion, despite straining efforts to control same. It is impossible to maintain fixation for more than a few seconds, and the arhythmic movements are more aggravated with the whole leg extended on thigh in midair than with the upper leg extended on thigh and lower leg flexed from the knee. There is an increase in the amplitude of motion when the legs are widely adducted, and a decrease when brought in ap-

position. Coordinate movements of the arms and hands are much better executed than those of the lower limbs. Today he picked up a match or pin from the floor with ease, but says this varies and is at times very hard to do. Pouring water from one test tube to another reveals a coarse tremor. The right index finger is brought more steadily and directly to the nose than the left. He approximates the inches fairly well, but strangely enough, he does this maneuver much better standing with the feet closely together (as in Romberg position) than with feet spread. Large movements of the arms are accompanied by notable lack of balance in the trunk and legs.

Protrusion of the hands and separation of the fingers reveals, more in the left than the right, coarse, irregular movements. Refined tests applied to the smaller musculature, such as needling and buttoning, elicit marked tremulousness. The crude muscular strength when measured by the examiners, is shown to be not much impaired. He overcomes tests of antagonism with good strength. Adductor and abductor groups in the legs seem stronger than the patient is willing to confess, and the same holds good of the flexors and extensors. In testing the lower limbs together, the left side may have been a shade weaker than the right. The left grip appears slightly weaker than the right, but this I think is also relative. There is no visible atrophy, but here and there the muscles feel a bit flabby.

The pupillary reflex is normal to light and accommodation; the jaw jerk was not elicited. With the arm hanging loosely over the back of a chair, the triceps jerk seemed more responsive on the right than on the left. Wrist taps were not elicited. The pectorales and spinati show excessive myotatic irritability and exaggerated responses. The knee jerks were bilaterally exaggerated. Abdominal skin reflexes were present, but the cremasteric was not elicited. The Achilles jerks are bilaterally equally brisk. The Babinski, Gordon and Oppenheim reflexes were absent. No ankle clonus; plantar skin reflex was very sensitive. Over the pectoralis the phenomenon of myoidema was noted. Fibrillary twitchings were absent. The tactile, pain and thermal sense are perfectly intact and exquisitely accurate. The sense of orientation was exceedingly good, even when confined to slight degrees and angles of deflection in the single toes.

Dr. Hecht said that when he first saw this case, in the absence of any sensory phenomena, and in the presence of spasticity and what he took to be incoordination and not tremor, he thought of its being perhaps a primary spastic affair, limited to the lateral tracts.

That view would not explain the incoordination, the ataxia the man had. He had been shown to Dr. Patrick, after other men looking him over carefully, and Dr. Patrick will explain his attitude. On walking, the patient showed the jerking of multiple sclerosis, the quivering and shaking throughout the whole body. The head moves a little. There is no nystagmus,

no scanning speech—nothing more than this fair degree of spasticity.

Dr. Patrick said he thought the condition was typical of multiple sclerosis. Dr. Hecht had been under the impression that the trouble would show more in the excursion than in the fixation. Dr. Patrick spoke of the condition in many cases showing in the act of drinking; the patient brings the glass up fairly well, and then the trouble begins.

Dr. Hecht said he thought this was a tremor of multiple sclerosis and considered the inability to fix an ataxy. He has been sick six years, and there have been remissions, the only history being that of pretty strong alcoholism.

Dr. Kuh said that against disseminated sclerosis was the late onset. It never begins so late as that. He thought, however, disseminated sclerosis, in the broader sense, was pretty safe.

Dr. Williams said it seemed so characteristic a tremor, it appeared it would rather be a case of true disseminated sclerosis in the sensory tract as well as the pyramidal tract. It was hardly probable the diffuse sclerosis causing a combined system disease, as in six years it would not fail to have shown some symptoms. He had recently read an article in which a systematic test had been made of the bone sense, and it was found the only sensory symptom present in tabes, for example, and also of mixed sclerosis. Diabetes was the only other condition in which it was present in this series of 200 cases, and never present in condition of health. He said he referred to the vibration.

Dr. Kuh said that in the majority of cases it was not usual for the tremor to be greater in the legs than in the arms in multiple sclerosis, but there was no reason why it should not be. The lesions are more marked below the cervical margin.

Dr. Patrick said that he thought the reason the intention tremor in the legs is not more frequently mentioned is because it is not frequently examined for. He frequently finds it.

Dr. Hecht said he thought the text books were somewhat in error in giving the impression in regard to the tremor, that the excursion was very good, or rather, that in the effort to fixate it subsides.

Dr. Kuh said the reference was made to the effort on the part of the patient. In bringing the fingers together, they travel pretty well, and at the stopping place the trouble begins. Asking the patient to bring the fingers together and stop just before touching, and hold them there, will often bring out intention tremor when the ordinary test will not.

Sarcoma of the Brain, with developments of acute symptoms two weeks after an adenoid operation, was shown by Dr. J. H. Hess, who first described the tumor and showed the specimens.

The child, (5½ years of age) had received a blow on the head a year and a half ago, but on examining the skull there were no findings in that region. The dura was very deeply injected all around, but there were no other changes except at the base, where there was a slight meningitis. In no part of the dura were tuber-

cles visible. The pia presented about the same condition. Upon external examination there were no visible changes of the brain. On section and opening into the lateral ventricles, a large, mulberry-like mass was noted in the anterior horn of the left lateral ventricle which goes through the corpus callosum into the anterior horn of the right lateral ventricle, the mass being about the size of a duck's egg, reddish brown in appearance, and containing no nodules. The posterior horn of the right lateral ventricle was filled with a similar mass. The choroid plexuses on both sides were normal. There very marked internal hydrocephalus. In the tumor mass of the posterior horn on the right lateral ventricle was a small abscess containing sero-purulent matter and anterior to this were four small cysts containing clear fluid; the left with a clear fluid. The anterior half of the right lobe of the cerebellum was composed of a tumor mass. Microscopic examination showed a small round-cell sarcoma.

The history is even more interesting, and follows:

Clara S., aged five years, 1½ years ago received a blow on the head with a brick, one-half inch to the left of the median line of the forehead at the hair line. The wound bled profusely and caused headache for ten days, which disappeared and she regained her usual good health. One year ago she complained of earache which was followed by a purulent discharge from the same ear, the side not being remembered by the mother. Six months ago she suffered from recurrent headaches, which the mother described as "spasmodic flashes," coming on suddenly with flushing of face, severe pain, and shortly disappearing. These continued more or less irregularly up to October 19, 1904, when both tonsils and a large mass of adenoid vegetations were removed. Two weeks later she complained of severe headaches and dizziness, followed shortly afterwards by severe attacks of psychic vomiting, apparently without cause and without definite relation to the time of eating. She also suffered at this time from vertigo and internal strabismus of right eye, which cleared up in three days. During this time the temperature ranged between 98.6 and 103 degrees F. Pulse is not remembered. She also complained of severe frontal headaches and pain in the right shoulder and arm, apparently due to nerves of brachial plexus. Flexion and extension of head at this time produced no symptoms.

These symptoms improved, with irregular exacerbations, and three weeks later she developed what appeared to be a spasmodic torticollis. Still later, when this disappeared she had photophobia and the mother noticed ataxia in gait. Since then the symptoms have persisted with improvement at times. The mother also noticed limpness in the left arm, which improved but did not entirely disappear. Headaches appeared suddenly, which, at rest, disappeared as suddenly. While out walking she suddenly complained of blackness before the eyes and had to be carried home.

March 10, 1905, 10 A. M., when seen she had

right sided facial paralysis, with paresis of left leg and weakness of left arm, although able to grasp the hand with considerable vigor. The mind was clear, the little patient remembering the doctor's name, from a visit two months previously. The mouth was drawn to the left in speaking and the right eyelids did not close. Photophobia. Tongue slightly drawn to the left; could not make grimaces with left side of face. Slight strabismus of right eye had apparently not improved. Some retraction of head, severe frontal headaches and drawing up of legs; pulse 80. Pupils react to light sluggishly; tache cerebral; abdomen retracted, reflexes absent.

At 6 P. M. of the same day opisthotonus; legs flexed on abdomen and child comatose. Temperature 98.8, pulse 108.

March 11th, 10 A. M., temperature 100.6; pulse 108. Opisthotonus; legs flexed and rigid; child comatose; pupils reacted, left fairly well, right sluggishly; choked disc. Bowels moved involuntarily first time; spine apparently very sensitive in cervical region; knee reflexion absent.

An interesting feature of the case is that the child had very few symptoms before the adenoid operation, but it was unfortunate that she began to have many symptoms two weeks following it, leading to the supposition that the operation may have been a direct etiological factor in her illness. This, however, was disproved at the autopsy. The test tubes were found to be infected, and it was a question whether the fluid was pus or necrotic tissue.

Dr. Harold N. Moyer said that the case illustrates several things apparent in tumors in children; he had been struck by the enormous character of the tumor in children. These are probably never diagnosticated until late in the disease. He had a case that resembled somewhat this related by Dr. Hess, the same obscure and scattered symptoms, choked disc, was taken with sudden blindness, and died three or four days afterwards. The child had cerebral vomiting and all the more distinct signs of cerebral pressure. The very large tumor mass in this case is also significant of the tumors of children. The skull is flexible and tolerates pressure, and the tumors are larger than in adults.

Dr. L. H. Mettler, in connection with this, called attention again to the case of the 9-year-old boy shown at the last meeting, which he had very hurriedly and inadvertently had brought in as hysterical amblyopia. The Saturday after that meeting the child was examined by Dr. Beard very carefully as to the eyes. The fundi, at a casual examination would be considered normal; absolutely no atrophy. Around the musculae there was a little change in the blood vessels, a slight oedema; the more prominent vessels showed a slight shadow. The color is gone somewhat and there seems to be a slight extravasation in the minute blood vessels. His findings were fine and delicate, and he said that had occasionally found such condition, where later on a neuro-retinitis appeared. We will probably find there is a growth at the base of the brain or cerebellum or near the pons. Dr. Mettler had asked that the boy be brought for complete examination, but the father

returned to say that they had decided to try Christian Science and let medicine alone. Dr. Mettler thinks there is an organic growth at the base of the brain and if the case comes to autopsy later it will probably fit in with the case of Dr. Hess.

Dr. Sydney Kuh said he did not know if it was generally realized, but he thought it a rule rather than an exception to see a post mortem rise in temperature in death from brain tumor. He had, in a recent case at the County Hospital, asked that the temperature be taken after death, and the rise was noted. In Heidelberg they had always looked for it, and frequently in meningitis cases too. It often is 104-5-6 or 7 half an hour after death.

Dr. Hess said that the child's mind was very bright. She was rational and her memory was perfect, which in view of the callosal invasion, was remarkable.

WEST SIDE BRANCH.

A postponed meeting of the West Side Branch of the Chicago Medical Society was held at the Cook County Hospital Thursday evening, May 25, 1905, at 8:30 P. M. Our President, Dr. John A. Robison in the chair. The meeting had been postponed from the week before, our regular meeting night, that members from our Branch might attend the State Meeting at Rock Island.

The evening was devoted to a symposium on Diseases of the Heart and the program was opened by Dr. S. R. Slaymaker, with a paper on **Endocarditis**. Dr. Ticken followed by **Remarks on Pericarditis**. Dr. R. H. Babcock spoke on **The Principle of Prevention in the Treatment of Heart Disease**, and Dr. Joseph M. Patton closed the program by a talk on **Treatment**.

The West Side Branch of the Chicago Medical Society held its annual meeting at the Cook County Hospital Thursday evening, June 15th, at 8:30 P. M., the President, Dr. John A. Robison in the chair.

Dr. C. Volini sent regrets at not being able to read his paper, **Some Cerebral Symptoms of LaGrippe, as Observed Among the Italians**, and promised to have it ready for our next meeting.

Dr. Woodyatt spoke in an able manner on **The Clinical Significance of the Eosinophiles and Myelocytes**, giving an account of original investigations in that line of work.

Dr. John A. Robison gave the retiring president's annual address, reviewing the year's work, expressed his gratification at the good attendance, an average of 31½ for the year, and at the high order of merit of the papers read, and thanked the Branch for its courtesies to him during his term of office, and made recommendations as to the future work of the Branch.

On motion of Dr. W. A. Evans the suggestions of the President were to be put in writing and handed to the incoming officers.

The annual election was held and resulted as follows:

President—J. J. Alderson.

Secretary—C. C. Rogers.

Delegate—J. S. Nagel.

The Branch then adjourned until the third Thursday of October. J. J. Alderson.

New Incorporations.

New corporations were licensed by the Secretary of State at Springfield, as follows:

Neuro Vitae company, Chicago; capital, \$9,000; manufacturing medical compounds and appliances; incorporators, J. G. Leonard, Jacob G. Grossberg, Sigmund Misloaski.

Harvey-Jenner Medical university, Chicago; not for profit; educational purposes; M. C. O'Connor, J. Y. Kennedy, F. Mahoney.

Drs. Hoag and Turbin Remedy company, Chicago; capital, \$2,500; manufacturing medicines; incorporators, Louis M. Turbin, Gustavus J. Tatge, Charles A. Koepke.

Irresistible Health Methods association, Chicago; not for profit; hygienic incorporators, Henry Silberjorn, Benjamin Bierfeld, Oscar Helbig.

Dr. Wilfred H. Manwaring, assistant in pathology in the University of Chicago, has been appointed head of the new department of pathology and bacteriology in Indiana university, with the rank of associate professor.

Dr. R. D. MacArthur has bought from Mrs. C. A. Spring, the residence property at 448 Dearborn ave., Chicago, for \$10,500 cash. The lot is 25x150 feet and the house is a two story brown stone front structure.

Lawn Fete to Aid Hospital.

A lawn fete for the benefit of the Iroquois Memorial Emergency hospital was held at the residence of Miss Elsa Soelke, 189 Humboldt boulevard. Nine children's clubs of the neighborhood united to make the entertainment a success. The bazaar of the Helping Hand club for this hospital recently netted \$52.

The Taylorville Hospital fund now amounts to \$2,300.

Would It Be Possible?

Really, this mosquito question deserves a great deal more attention than it is getting. It is quite possible, if states would combine, to clean out breeding spots. Even in places where the mosquito is not dangerous, but merely a pest. The war against the insect ought to be carried to the point of extermination. With the disappearance of swamps and foul places the general health would be better and life made more pleasant.—Philadelphia Inquirer.

Dr. John N. Sandblom is Elected to Faculty of the University of Christiania.

The unanimous election of Dr. John N. Sandblom, 1351 Ainslee street, to be dean of the

dental department of the University of Christiania was announced in Chicago recently.

Early in May Dr. Sandblom went to Europe to lecture on post-graduate work in dentistry.

The superiority of American dentistry and methods of teaching so impressed the university authorities that the Chicagoan's election to the faculty resulted.

Dr. Sandblom has practiced his profession in Chicago since 1900, when he graduated from the Northwestern University Dental school. He was born and educated in Sweden. He now is on the way to the United States to wind up his affairs.

Funny, Isn't It?

While all patent medicines are not used on the skin, most of them are skin tonics.—Columbia Jester.

Doctors Get Change of Venue.

Dr. Little, of Janesville, and Dr. Venetta, of Lerna, indicted for manslaughter in the Cumberland county circuit court, have taken a change of venue to Effingham county. They are also defendants in a damage suit. It is alleged that Mrs. Zelda Cox died as a result of improper treatment during childbirth.

Dr. Slusher Can Get \$1,200.

A few days ago the appellate court handed down a decision in favor of Dr. B. F. Slusher in his case against Bartlett, Frazier & Co. for \$1,200, affirming the judgment of the lower courts. It is not known that Dr. Slusher has received the money. He probably would not call for it in person, but he could get it through power of attorney.

Dr. Slusher, it will be remembered, is a fugitive from justice and because of a criminal charge recently brought against him, is supposed to be hiding in Old Mexico.

TELLS OF CHANGES.

Official Statement Issued Concerning Work of Dr. Senn and Dr. John B. Murphy.

An official statement was issued recently by Rush Medical college regarding recent changes in its faculty. The statement says:

"Dr. Nicholas Senn remains at the head of the surgical department of Rush and will have entire charge of the clinical teaching of surgery during the fall quarter. Dr. Senn has also been elected professor of surgery in the University of Chicago and will lecture to the medical class at the university.

"Dr. John B. Murphy has been elected professor of surgery in Rush, and, with Dr. Arthur Dean Bevan, will have charge of the administrative details of the department of surgery and will conduct the clinical teaching of surgery during the remainder of the year."

THE VALUE OF CYSTOGEN IN GONORRHEA

is specially pronounced in those forms where gleet is the prominent symptom. Where gleet has involved the deep urethra and bladder the influence of Cystogen is evident in the rapid clearing of the urine and the disappearance of pus. When the urine is acid the addition of Lithia is of value and seems to aid the curative properties of Cystogen.

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with Sodium Phosphate.

INFANT FEEDING IN SUMMER

The problem of substitute infant feeding becomes more complicated with the advent of the hot months. The milk supply of most communities is bad enough at all times, but in summer it presents grave dangers to the bottle-fed infant. Most peddled milk contains an enormously high bacterial content and the use of preservatives is by no means uncommon. Even pasteurization of milk, once it is tainted, does not eliminate danger.

The rational solution lies in the use of

HIGHLAND BRAND EVAPORATED CREAM

Simply the purest of cow's milk produced on model dairy farms—reaching the factory in the shortest time after leaving the cow, and handled with most scrupulous cleanliness—and sterilized and evaporated by a process which makes it easy of digestion and gives *absolute protection against all germs and other impurities*. It is the simplest, most uniform and satisfactory substitute food.

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Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

LOCAL ANALGESIA.

By Capt. J. W. Houghton, of the English Royal Army Medical Corps.

Abstracted From the Journal of the Royal Army Medical Corps, April 15, 1905.

Baker's method of effecting local analgesia by means of eucainadrenalin solution gives most satisfactory results. I have lately used it for removal of a cystic tumor on the periosteum of the scalp; for the removal of a fibroma on the posterior aspect of left trochanter, involving dissection from the bone; for opening a knee joint and removing loose cartilage; for excision of five varicose veins; for excision and ligature of external hemorrhoids in a case where chloroform was inadmissible; for opening and draining abscess of liver; for varicocele; and for laparotomy for perforating enteric ulcer. In all these operations the patients were free from pain, save the one with scalp tumor which was probably insufficiently infiltrated. Some patients knew when the knife was cutting them, without, however, feeling it as pain.

Barker's formula is:

Beta-eucain	3 grains.
Sodium chloride	12 grains.
Distilled water	3½ ounces.
Adrenalin chloride (1-1000)	18 drops.

The whole quantity may be injected at one time, but one-third of it usually suffices. The adrenalin should be added only when the eucain solution has been boiled and cooled. Infiltration of this solution causes a complete analgesia lasting several hours, the anesthetic effect of the eucain being enhanced and lengthened by the adrenalin, which actively contracts the arterioles, limits the blood supply, and retains the eucain in position.

I see no reason why amputations and hernia operations cannot be performed by the method, the main factor being the infiltration of all nerve trunks supplying the site, not forgetting the probability of nerve anastomosis. The more one sees of this analgesia the more is it preferred to general anesthesia, the patient escaping the risks and after-effects of the latter and the operator being saved anxiety.

Since publishing a note on the use of Collargolum for urethro-vesical lavage, Dr. Tansard, of Prof. Blazer's service at Hospital St. Louis in Paris, has successfully employed it in numerous cases. Thus by means of two daily auto-irrigations with a quart of a 1:500 Collargolum solution a urethritis that had persisted for sev-

eral months was cured in 10 days. There was never the least irritation.

In old and chronic urethritis with profound lesions of the mucosa and periurethral cysts, the following method gave excellent results: Massage on a Benique 55 or 60 sound; urethral lavage with antiseptic solution; and finally a permanent injection of 30 to 45 minims of a 4% Collargolum solution, the urethra being closed with cotton. This did especially good service in a case of over two years' standing which resisted all other treatment. Four cases were all cured within 18 days. In three others he alternated, with good result, Collargolum irrigations with oxycyanide of mercury lavage.

Tansard further treated acute gonorrhoeas with oxycyanide of mercury until the discharge had nearly dried up, and then gave Collargolum instillation, the filament disappearing from the urine after 5 to 8 of them. Ten cases of chronic urethritis—some more than three years old—did not remain under observation until cured; but in all the gonococcus disappeared after less than 30 instillations, though there were still filaments in the morning urine.

In six gonorrhoeal cystitis about 1 dram of a 4% solution were injected daily into the bladder. In five every vesical symptom disappeared within 8 days; the sixth, which was very violent, remained unimproved after 10 days and was put on silver nitrate, which acted no better.

Tansard concludes that Collargolum is an important anti-gonorrhoeaic, both in acute and chronic cases. It acts as rapidly as the silver salts. Urethra and bladder show a remarkable tolerance for it; the patient suffers no pain and has no desire to urinate after its use. Collargolum is not at all caustic; it is the silver itself that combats and destroys the gonococcus in the urethra and bladder.—Abstracted from the Journal des Practiciens, May 20, 1905.

COLLARGOLUM IN CEREBROSPINAL MENINGITIS.

Gustav Bjorkman, M. D., Professor of Physiology, Milwaukee Medical College, Writes in "An Index of Diseases."

In my own experience I have met with great success in meningitis from the combined treatment with silver inunctions (Crede) and antiseptic packs on the skull. In some instances the suppuration took an outlet through the nose and ears; all cases that recovered regained their normal health in a remarkably short time. The method is to rub in from 1 to 3 grams (15 to 45 grains) of Unguentum Crede twice a day

at first and, when improvement follows, once a day. It is rubbed either on the trunk or inside the thigh for forty-five minutes. At the same time the hair of the scalp is closely clipped and moist borated gauze, drenched in a 1½% solution of formaldehyde, acetanilid and 1-10% of kresamine continually kept over the whole head, from the root of the nose backward down to the neck and on the sides, leaving the ears free. This pack is removed as soon as it becomes dry and a new one applied. Over the whole is placed a cap of oilcloth. There is no objection to the simultaneous use of ice-cap on top of the oil-cloth or ice-coil on the spine. It should be tried without hesitation, as it is entirely harmless, although in the beginning it causes inconvenience. By this combined treatment I have seen many cases, in every type of meningitis, recover; cases which, I am sure, would otherwise have succumbed.—Abstracted from Merck's Archives, January, 1905.

Edward Speidel, M. D., Professor of Obstetrics and Diseases of Women, Hospital College of Medicine, Louisville, reported before the Louisville Medical and Surgical Society, Nov. 21, 1904, an extreme case of puerperal sepsis in which he had excellent results with Collargol. After two weeks' treatment with the remedy she had a normal temperature and is now convalescent. He does not like the use of streptolytic serum, which he employed in several cases. In one case he used seven bulbs in 48 hours without any result.—American Practitioner and News, January 1, 1905.

Pure Milk for Children.

That the death rate among children is highest during the hot months is largely due to improper feeding and the use of impure milk. About 67 per cent of the mortality among children under one year is due to diarrhoea. The death rate is higher in cities than in the country, due in great measure to the fact that it is difficult to obtain pure milk from city dairies. This is particularly true during the summer, when peddled milk is a source of the greatest danger when used for infant feeding. The early morning delivery of milk to city homes consists of the milking of the preceding day. Unless the milk is properly cooled after milking it may contain tyrotoxin, which no amount of pasteurization, sterilization or digestion will overcome. Bacteriological examination of milk supplied to various cities last year showed many samples running as high as eight and ten millions to the c. c.

It is obvious, however, that cow's milk must constitute our main dependence in substitute feeding of infants. Ordinary sterilization does not simplify the problem, as the milk is thus rendered more difficult of digestion; pasteurization is not effective; the large amount of cane sugar in "condensed milk" is almost certain to cause derangement of the stomach and bowels. The solution of the question now seems to point to the use of a class of products commercially known as "evaporated cream." The Highland brand evaporated cream is the original method

of preparing milk in this form, and is today the most perfect form of evaporated cream. Highland brand evaporated cream is simply pure, full-cream cow's milk, sterilized and evaporated to the consistency of rich cream. It can be modified in the same way as fresh milk, and is absolutely germ proof. On account of the special process employed in its evaporation and sterilization, Highland cream is more easily digested than either raw or pasteurized milk.

The Most Satisfactory Method of Treating Hay Fever.

It is now regarded as a pretty well established fact that hay fever is a neurosis with the peculiar local manifestations of hypersensitivity of the respiratory mucous membrane. Excessively humid air, dust, the pollen of certain plants, attenuated particles of matter, and certain volatile emanations cause a pronounced irritation of the mucous membrane. This is indicated by violent fits of sneezing; copious discharge of mucus; sensation of burning in the pharynx and post nasal and sometimes in the region of the forehead, the eyes, and the cheeks; more or less headache and difficulty of breathing, due to nasal stenosis produced by turgescence of the mucous membrane; and in not a few cases, cough and bronchial asthma. These phenomena are undoubtedly the direct result of the vasar motor paralysis that follows the primary irritation. They are caused by an engorgement of the tissues resulting from excessive dilatation of the capillaries. So much for the etiology and pathology of the distressing condition that annually incapacitates thousands of the most valued citizens of the country every year, and for which no method of treatment heretofore has proved more than palliative.

With the discovery of the remarkable therapeutic properties of the suprarenal gland and the isolation of its active principle, Adrenalin, a new day dawned for the hay fever patient. As our experience with Adrenalin increases we are more than ever convinced of its efficacy. Its very satisfactory and exceedingly prompt action in controlling the paroxysms is simply charming to physician and patient. It affords the sufferer the grateful relief from physical torment and mental anguish that he once learned to expect from cocaine; but the dangers and inconveniences of cocaine are entirely wanting after the use of Adrenalin. The latter powerfully contracts the capillaries, reduces the turbid turgescence, thus relieving nasal stenosis, and checks the profuse flow of mucus. It also overcomes the sense of mental and physical depression that is so common in many chronic cases.

Adrenalin is used either in the form of the 1-1000 Solution or the more recent Adrenalin Inhalant. The latter is a permanent oily solution also of 1-1000 strength. Either solution may be sprayed into the nares and pharynx, during deep inspiration when it is desired to reach the lower air passages, or the nasal tissues may be treated by means of topical applications on cotton mops. It is unnecessary to use cocaine, as the Adrenalin Solutions are not at all or very slightly irritating. Adrenalin is

kept in the leading pharmacies of the country and the physician should have no difficulty in procuring it at any time. Messrs. Parke, Davis & Co., who market the Adrenalin preparations, have published a brochure on the treatment of hay fever that should be in the hands of every medical practitioner. It can be obtained by application to the Detroit office, or any of the branch houses.

Cystogen-Lythia Effervescent Tablets.

The many indications for the use of lithia in combination with cystogen have resulted in the preparation of cystogen-lithia effervescent tablets. Physicians will find these tablets of special value in the treatment of many conditions suggesting the addition of lithia as increasing the efficiency of cystogen. In rheumatism, gout, urinary deposits, ammoniacal urine, cystitis, etc., cystogen-lithia hastens the excretion of urates and uric acid and prevents the formation of calculus. These tablets are composed of cystogen 3 grains, lithium tartarate 3 grains; usual dose, one to two tablets three or four times daily dissolved in half a glass of water. Samples will be sent to physicians addressing the Cystogen Chemical Company, St. Louis, Missouri.

The severe burns only come to the physician's attention. In such cases immediate relief and early resolution will be obtained by the application of Phenol Sodique. As an anodyne and local anaesthetic for burns the value of Phenol Sodique is inestimable.

The primary shock attending burns is taken care of by the hypodermic administration of Morphine Sulph. $\frac{1}{4}$ gr. combined with Atropine Sulph. 1-60 gr. Afterwards an application of Phenol Sodique only is necessary. As a first treatment remove the loose tissue, apply compresses of undiluted Phenol Sodique and protect the air. In after treatment apply Phenol Sodique diluted with 50 per cent distilled water or 25 per cent C. P. Glycerine.

The formation of pus and decomposition of loose or broken-down tissue is prevented by the application of Phenol Sodique. After first bandaging let remain until healthy granulation has ensued; as thus the burned portion is protected from the air.

Phenol Sodique soaked through the already applied dressing in quantities sufficient to keep the dressing moist will give excellent results. The close relationship existing between the kidneys and cuticle should not be lost sight of. The skin when burned cannot eliminate the impurities so forces this additional labor upon the kidneys. This condition should be watched and kidney treatment, if any, judged accordingly.

A severe case of burns, caused by the explo-

sion of a gasoline stove, recently come under the notice of the writer. The patient, a carpenter by trade, was severely burned about the face, neck and hands. Although intense suffering was caused by the burns an immediate application of undiluted Phenol Sodique relieved this pain in a very short while. After the first application of undiluted Phenol Sodique the affected parts were bandaged and kept moist with a solution of Phenol Sodique. Today the face, and neck are entirely well, without a scar remaining. The hand still has red splotches, which is due to the fact that from the first day after meeting with the accident the patient continued his daily work, which necessitating the constant use of his hands retarded their healing.

Phenol Sodique is the best, safest and most generally used antiseptic for cuts, burns, sores, catarrhal conditions, etc. The uses to which this antiseptic can be applied are very numerous and can be better understood from the published literature on these subjects.

In the wasting diseases, as well as in rickets, scrofula and marasmus it is of the greatest importance that a remedy be selected which will quickly check the pathological condition, and restore the organism to the normal without producing digestive or other functional disturbances. Cod liver oil has always stood first in the category of remedies calculated to bring about this desirable result, but unfortunately its peculiar odor and taste are features which are quite often objectionable to patients. Hagee's cod. ol. Morrhuae comp. is an elegant preparation, containing all the essential therapeutic properties of cod liver oil and combined with tissue building chemicals (Hypophosphites of Lime and Soda) and aromatics, which renders it agreeable to the palate.

American Journal of Dermatology.

Notice.

Armour & Company announce their readiness to furnish the Parathyroid substance in powdered form, in one drachm vials, at \$1.50 per drachm.

The parathyroid glands are very small, and so hard to get out that the material can be supplied only in very small quantities.

The Parathyroid substance has been suggested in the treatment of paralysis agitans, exophthalmic goitre, etc.

His Testimony.

Agent—"Did my patent medicine do you any good?"

Customer—"I should say so. I got so strong on it that I actually had the nerve to tell the landlord that the roof leaked!"—Detroit Free Press.

The Illinois Medical Journal.

The Official Organ of The Illinois State Medical Society.

Vol. VIII. No. 3.
25c per copy

Springfield, Ill., September, 1905.

{ SUBSCRIPTION
\$2.00 A YEAR.

PELVIC INFECTIONS IN WOMEN.*

BY THOS. J. WATKINS, M. D.

Clinical Professor of Gynecology, Northwestern University Medical School, Gynecologist to St. Luke's, Wesley and Mercy Hospitals, Chicago.

A study of pelvic infections as an entity instead of a consideration of infections of the various pelvic organs separately has certain advantages. The infections of the various pelvic organs are very intimately associated as the disease readily extends from one to another organ, and in the majority of cases nearly all of the pelvic organs are involved to a variable degree. One is frequently called upon to treat cases where nearly all of the pelvic organs are involved, and seldom if ever where the infection is limited to one of the organs.

This paper will not attempt to treat of this subject in detail, as that would include so much that is common knowledge and would require more time than is at my disposal.

Pelvic infection is much more important than any other class of pelvic diseases on account of its frequency, on account of the large mortality which attends it, on account of the immense amount of suffering which it produces, and because nearly every case can be prevented as it is almost invariably consequent upon ignorance or carelessness.

Its frequency is emphasized by the fact that 50 to 75% of the gynecological patients in our hospitals suffer from pelvic infection. It produces all the inflammatory disease, is the most common cause of sterility, is a very frequent cause of dysmenorrhoea and miscarriages, and over 50% of the aggravated cases of displacement of the uterus are the result of pelvic infection.

Nearly all pelvic infections occur through the vaginal canal, a very few of them reach

the pelvis through the general circulation, and a very limited number are the result of migration of bacteria through the intestinal walls. Pelvic infections occasionally occur through the appendix. This may result without rupture of the appendix. When the appendix ruptures the pelvic organs necessarily become more or less involved.

Gonorrhoea is a more common cause of pelvic infection, especially in the non-puerperal state, than any of the other micro-organisms and produces more suffering than all the other bacteria. In spite of all that has been written upon the necessity of cleanliness in obstetrics and notwithstanding the medical profession know and appreciate its importance, puerperal infection continues to be a rather frequent disease in women confined outside of public institutions. It would be unjust to infer that puerperal infections do not occasionally occur in public institutions. In fact, puerperal infections, at rare intervals, result when all known aseptic precautions are practiced.

In non-puerperal cases the majority of pelvic infections are the result of gonorrheal infection. Considerable attention has of late been called to primary tubercular infections of the pelvic organs, especially of the Fallopian tubes. The author's experience, observation and study would indicate that primary tubercular infections of the pelvic organs in women are especially uncommon, that they are usually associated with tubercular peritonitis (probably secondarily). The frequency of inflammatory diseases in the pelvic organs would act as a rather common predisposing cause to a secondary tubercular infection. In non-puerperal cases pelvic infection may result from carelessness in the preparation of the hands for pelvic examination and treatments and from neglect to sterilize instruments for diagnostic and therapeutic purposes. This applies especially to the use

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

of the intra-uterine instruments. "Catching cold" does not produce pelvic inflammation.

Pathology.—It is unnecessary for me to enumerate to this society the changes that take place in the tissues as the result of an infection. An inflammation in one part of the body is much the same as an inflammation in any other portion of the body. This fact seems to be often ignored in treatises on the specialties. The extensive, complicated and various classifications of endometritis exemplifies this statement and has done little except to confuse the student. An endometritis is much the same as an inflammation in any other mucous membrane.

An infection is detected by the changes which it produces in the tissues and these pathologic manifestations are usually proportionate to the extent and virulence of the infection. These changes are called inflammation, and there has been a tendency to regard the inflammation, instead of the infection, a disease. Inflammation is not primarily a destructive but a protective process. Its tendency is to save and not to destroy the tissues. An inflammation might be likened to a fortification.

The building of forts mars portions of the country but it tends to limit the invasion of the enemy and tends to protect it against injury. The changes in the tissues known as inflammation tend to protect the body in a similar manner from bacterial infections.

In non-puerperal cases the infection usually extends by continuity of tissue along the mucous membrane, so that an infection extending beyond the uterus in non-puerperal cases nearly always produces a salpingitis and secondarily a pelvic peritonitis and ovaritis. In puerperal cases the infection more often extends by the lymphatics and blood vessels and as a consequence ovarian infections are more common than tubal infections, and a myometritis for the same reason is more pronounced in puerperal than in other infections.

There is much yet to be learned of the relation of bacteria to disease. The septic symptoms of pelvic infections is due chiefly to the toxins produced by the bacteria and

not directly by the bacteria. In cases of suppuration the bacteria pass freely through the abscess walls, and often do this without producing serious results. The proof that the bacteria do migrate through the abscess wall is that they are found in tissue beyond the abscess wall and that they are smaller than the intercellular and connective tissue spaces. The inflammatory exudate and adhesions found beyond the suppuration is chiefly the result of the migration of bacteria.

Pelvic infections, like other infections, may or may not result in suppuration. In chronic suppurative cases the pus is usually sterile. The pus is usually sterile after the patient ceases to have fever. An elevation of temperature may remain after the bacteria have ceased to exist, as is shown at times by examination of the pus in cases operated upon before the febrile disturbance has entirely disappeared. If the pus becomes sterile, why do cases of pelvic infection often have repeated attacks of pelvic peritonitis and why do they not all result in a spontaneous recovery? Some of the bacteria, especially the gonococci, we are informed by good authorities, remain latent in the tissues a long time and finally become active. The repeated attacks are, I firmly believe, usually reinfections from the vagina or uterus or through an intestinal wall adherent in the pelvis and in close contact to diseased tissue. Numerous cases of pelvic infection even involving the tubes and ovaries terminate in a spontaneous and complete recovery.

Some cases of abscess in the pelvic organs go on to a spontaneous recovery without discharge of the pus. The fluid portion of the pus in these cases, after it becomes sterile, absorbs and the solid portion forms a cheesy-like mass and may become calcareous. This explains some of the calcareous masses occasionally found in the pelvis.

The belief is common that a sacto salpinx is the result of obstruction of the Fallopian tube at its uterine end. This is not so; it is the result of obstruction at its fimbriated end. I do not know of a case where the uterine end has on microscopical examination been found occluded but in all of them the

abdominal end is always closed. The uterine end is, however, often constricted. A pelvic abscess in non-puerperal cases is almost invariably secondary to suppuration in the ovary or tube and very seldom results otherwise.

Clinical History.—The illness often dates from marriage, from a protracted convalescence following labor or from intra-uterine exploration or treatment. The illness may date from "exposure to cold" or to a suppressed menstruation, which usually means that the infection extended at that time to the Fallopian tubes. The patients usually, but not always, give a history of a purulent vaginal discharge. There is often a history of cystitis. Febrile disturbances are usually present in the acute cases where the infection extends beyond the uterus. Pain, tenderness and gastro-intestinal disturbances are usually present when the pelvic peritoneum is involved. The symptoms in pelvic infections are usually intermittent or remittent.

Diagnosis.—The diagnosis of pelvic infections is usually not difficult to make. The pain, tenderness, swelling and febrile disturbances encountered in cases of pelvic infection is found in very few other pelvic diseases. The following are the chief diagnostic points:

1. History of an infection.
2. Signs of an acute or chronic infection about the vulva. An infection in Skene's glands usually means a gonorrhoeal infection. An infection in these glands is usually observed by noting a redness about the meatus urinarius, a thickening of the urethrovaginal septum on one or both sides and often more marked on one side. Palpation will show the glands enlarged and they will feel like a large needle imbedded in the septum and one can often force secretion out of them by exerting pressure upon them.

Points of redness may often be observed about the Bartholinian and other vulvo-vaginal glands and on palpation pus may be forced out of them. The presence of these signs usually means a gonorrheal infection but their absence does not exclude it.

3. Leucorrhoeal discharge. Microscopic

examination in the acute stage of gonorrheal infection should always be positive but in the chronic stage and in other infections it is of little or no service. The usual presence of numerous varieties of bacteria in the vagina makes the result of bacteriological examinations unsatisfactory.

4. Redness about the external os is always present in cases of endometritis, but it may be present in cases of laceration of the cervix with erosion. An erosion, however, is more often a result of an infection than of a laceration.

5. Infection of the endometrium. This is usually manifested by

- a. Redness about external os.
- b. Uterine mucopurulent discharge.
- c. Dysmenorrhoea.
- d. Menorrhagia.

6. Tenderness on Palpation. Mistakes in the diagnosis of salpingitis and ovaritis suppurative or not suppurative, are not infrequently made as can be determined by the attendance upon gynecological clinics. These are most often mistaken for ectopic pregnancy, ovarian cysts with torsion of the pedicle. In fact it is at times impossible to distinguish between these conditions without abdominal section.

Intermittent or remitted attacks of acute pelvic symptoms usually means a pelvic infection. One should remember that pelvic infections are often associated with other pelvic diseases.

Blood changes are always present in acute pelvic infections. Leucocytosis is always present in acute pelvic infections and is often a valuable diagnostic symptom between inflammatory and non-inflammatory diseases of the pelvis. In chronic pelvic infections, however, blood examinations are usually of little value. One often mistakes pelvic infections for ectopic pregnancy and vice versa. Typical cases are easily distinguished but atypical cases of the both diseases are common and at times it is impossible with our known means of diagnosis to differentiate between the two diseases without abdominal section.

Prognosis.—Any pelvic infection is always

serious on account of the danger of extension to the ovaries, tubes and peritoneum. It has been estimated that about 50% of the cases of gonorrhea in women extend to the endometrium. No estimates have, to my knowledge, been made of the percentage of gonorrheal endometritis to gonorrheal salpingitis. The dangers of rupture of a pyosalpinx ovarian or pelvic abscess into the general peritoneal cavity have been exaggerated. This very seldom occurs because the suppuration is in the lowest portion of the peritoneal cavity, and because the general peritoneal cavity is usually well protected by adhesions of the omentum and intestines, and by the presence of a large amount of round cell infiltration. The presence of these conditions explains why a pelvic infection seldom produces a general peritonitis except in puerperal infection. In the primary attack of pelvic peritonitis there is always a possibility of a spontaneous cure resulting. A few cases of gonorrheal salpingitis with marked swelling about the uterine adnexa go on to a complete spontaneous recovery. The following cases prove this statement:

Mrs. N. was seen in consultation some seven or eight years ago and was found to be suffering from an acute gonorrheal infection. She had an acute pelvic peritonitis and apparently a general peritonitis. An inflammatory mass was present which involved both uterine adnexa and extended upwards, nearly to the umbilicus (double salpingitis). There was a history of infection from the husband, who had an acute gonorrheal urethritis. The treatment was non-operative and she made an apparently complete recovery. Two years later vaginal section was made for relief of a retro-position of the uterus and the uterine adnexa and peritoneum were found to be free of disease, save for the presence of a few velumentous adhesions to the uterus and left ovary. She has since given birth to a healthy child. The gestation and birth were normal and she was free of any pelvic disease when seen about six months ago.

Miss H. consulted me six years ago for relief of a gonorrheal vaginitis and endometritis. She finally developed an acute

salpingitis on the left side with marked swelling of the tube. About six months after apparent recovery she suffered from an acute bilateral salpingitis with decided enlargement in the region of both uterine adnexa. About three months following recovery from this an abdominal section was made and both Fallopian tubes appeared perfectly normal. Both ovaries, however, were somewhat cystic and adherent. Plastic operations were made on both ovaries and the adhesions were separated. Some six months later she again had an acute bilateral salpingitis with marked swelling in the region of both uterine adnexa. About six months after recovery from this attack an abdominal section was again made and the ovaries and tubes were again found apparently normal. The repeated attacks of salpingitis were probably reinfections from the endometrium.

The gonorrheal infection is, however, the least liable to result so favorably on account of the latent character of the germ and on account of the large amount of inflammatory exudate that it produces, on account of the dangers of reinfection. In most cases of puerperal infection, which do not suppurate, one can be almost certain that resolution by absorption will be complete. Infections that extend beyond the uterus tend to produce adhesions and these adhesions often produce much suffering and are often difficult to relieve by operative or other remedies. These adhesions, however, often decrease in number and size and often elongate and at times entirely disappear by absorption.

Treatment.—Prophylaxis includes a study of the entire subject of prostitution and such a study would require too much time to attempt to consider here. Pelvic infection would be much lessened if it were possible to instruct the laity of the dangers of gonorrhoea. Physicians could accomplish much by explaining to every one of their patients, suffering from gonorrhoea, the dangers of the disease. Physicians often err in informing patients that they are cured of gonorrhoea as it is difficult to determine when a cure has resulted, even with a most careful microscopic examination.

It is to be hoped that the use of rubber gloves will become generally adopted in the care of obstetric cases, as this would, in all probability, minimize the number of cases of puerperal sepsis, as there is no doubt that most cases of puerperal fever are due to hand infection.

It would be well, were it possible, to require every physician to use an instrument sterilizer in his office so as to diminish the danger of carrying infection from one patient to another.

The use of intra-uterine sounds, except in rare cases and under every careful aseptic precautions, for diagnostic purposes should be abandoned. The employment of intra-uterine treatments in the office has much more tendency to cause than to cure disease.

Efficient treatment of a gonorrhoeal vulvo-vaginitis will diminish the danger of extension of the disease to the uterus, Fallopian tubes and ovaries.

I am in the habit of giving the following directions for gonorrhoeal vulvo-vaginitis:

1. Keep the patient in the recumbent position.
2. Swab the diseased surface thoroughly with a four per cent solution of silver nitrate every two or three days for one or two weeks.
3. Use $\frac{1}{2}\%$ solution of lysol for vaginal douche three times daily.
4. Use 5% protargol in boro-glycerite vaginal suppositories at bed time.

This treatment should be effective if persisted in for one or two weeks. Vaginal douches should be used during the two or three menstrual periods following the infection because the infection is especially apt to extend at that time. This douche should be warm so as not to disturb the menstrual flow.

The treatment of an acute endometritis of a non-puerperal case should be palliative. In chronic endometritis curettage with topical applications are usually the only remedies that give much relief. Curettage, however, is always an incomplete operation on account of the contour of the uterine cavity. Tent dilation is much better for this operation than rapid instrumental dilation because

its results are more permanent, it compresses the utricular glands and forces out their secretion, it does not produce tears and thus tend to produce scar tissue in the cervix. There is no more danger of sepsis from the use of tents than from other instruments if they are perfectly sterilized and if an aseptic technique is practiced.

The treatment of an acute infection of the Fallopian tubes, ovaries and pelvic peritoneum in the non-puerperal state should almost invariably be palliative, because:

1. Complete resolution may occur by absorption.
2. There is not much danger to life at this time as the disease is almost certain to be quarantined by adhesions and round cell infiltration.
3. The acute stage under appropriate treatment usually lasts only a short time.
4. The dangers of operative treatment in the acute stage is much greater than the dangers of operation during the chronic stage of the disease.

The following are the essentials of a treatment for the acute stage of these diseases which usually gives very satisfactory results:

1. The patient is kept in bed.
2. An ice bag or hot water bag, preferably the former, is kept over the seat of pain.
3. Opiates are given if needed for-severe pain.

An enema consisting of magnesium sulphate 1 ounce, glycerine 2 ounces, water 3 ounces, is given once or twice daily to move the bowels and for local depletion.

5. Keith's mixture.

R Magnesii sulphate, gr. xx.

Magnesii carbonate, g. x.

Aq. Menth. Pip, ʒss.

is given every hour for a few doses if needed to produce free bowel movements. Exceptional cases may require incision and drainage of an abscess, and very exceptional cases will require a radical operation during the febrile stage of a pelvic infection. Curettage has no place in the treatment of salpingitis as the Fallopian tubes do not drain into the uterus.

What place should hot vaginal douches

and topical application have in the treatment of chronic cases of pelvic infection? Hot vaginal douches are very generally used for cases of chronic inflammation of the uterus, ovaries and Fallopian tubes. The douches do have some effect upon the vaginal blood and lymphatic vessels but the disease affects tissues supplied by the ovarian and uterine blood vessels and lymphatics. In these cases the douche is used for ten to twenty minutes twice daily. Who would think of applying hot applications to inflamed tissues in other portions of the body for ten to twenty minutes twice daily? No one would pour hot water on the fingers for ten to twenty minutes twice daily for a chronic inflammation in the wrist joint, and yet the circulation of the fingers and wrist are more intimate than is the circulation of the vagina and uterine adnexa.

The cervix and vault of the vagina are frequently painted with tincture of iodine with the hopes of relieving the patient of an inflammatory exudate about the ovaries and Fallopian tubes. Would it not be better if one desired to use iodine to administer it by mouth?

Applications of ichthyol and glycerine in the vagina are also frequently employed. The glycerine does deplete, but can depletion of the vaginal tissue affect an inflammatory exudate in the ovaries and tubes when they have a different blood supply? It does not seem probable that the ichthyol can come in sufficiently close contact to the disease in these cases to produce a so-called alternate effect or to relieve pain. The reply is frequently made that these treatments do produce good results. It would seem that the good results would have to be attributed in these cases to the kind action of Nature; to other remedies employed or to suggestive therapy. This paper is not intended to infer that all cases of chronic infection of the uterus, ovaries and Fallopian tubes require operative treatment. It would, however, infer that many of these cases are not operative and that general remedies are often more valuable than local ones in the treatment of the milder cases of chronic pelvic infection.

It is impossible in a short paper to say much of the operative treatment of the chronic cases of pelvic infection. All cases of chronic infection of ovaries and tubes should not be operated. All cases which are attended by much thickening about the ovaries and tubes, that cause repeated acute symptoms, more or less continuous pelvic distress, or appreciably affect the general health of the patient indicate operative interference. The presence of an old pelvic infection with involvement of the ovaries and tubes is not sufficient indication for operative treatment.

One should not forget in these days of operative furor that deaths do occasionally follow abdominal sections, that convalescence is sometimes protracted and that perfect recoveries do not always result. The facilities for operations and the experience and skill of the operator and assistants are important factors in determining for or against operative treatment.

When operations are made in cases of salpingitis and oovaritis it is seldom necessary to remove the uterus and enough ovarian tissue can almost invariably be left to preserve menstruation. Resections and plastic operations upon the ovaries are usually attended by good results.

Resections and plastic operations upon the Fallopian tubes for salpingitis, however, frequently result unfavorably. Pregnancies after these operations are uncommon. Inflammatory exudates and adhesions sometimes result and reinfections often occur. Such tubes when subjected to plastic operations may require subsequent removal. Unilateral salpingectomies are always attended by some risk as infection in the Fallopian tubes, like the bronchial tubes, is seldom unilateral.

Discussion on the Paper of Dr. Watkins.

Dr. Robert J. Christie, of Quincy: Mr. President.—If I understood the essayist rightly, he quoted an eminent authority on tubercular peritonitis, saying particularly that pelvic tubercular peritonitis was secondary to that of general tubercular peritonitis.

I was attracted by one remark made in the paper which, it seemed to me, was not thoroughly elucidated, namely, the possibility of mistaking pelvic inflammation for ectopic

pregnancy. Some years ago I reported some cases, in none of which was there any resemblance to pelvic inflammation or pelvic exudate. If such a question should arise, in making a differential diagnosis, a blood count would readily clear up the doubt.

Dr. J. E. Allaben, of Rockford: I desire to refer to what we may call the conservative treatment of acute cases of pelvic infection, because these cases are sometimes encountered by general practitioners as well as specialists. General practitioners should be able to recognize these conditions even though they do not operate on the patients. We not infrequently meet with an acute infection which usually follows an abortion, or sometimes labor, and it is not frequently a gonorrheal infection. On examination we find that there is intense pain, and in a few days a mass forms in the cul de sac, which can be detected by vaginal examination; and there is the appearance of serum or pus. In these cases by administering an anesthetic and opening through the vagina, getting rid of the accumulation of fluid, we afford immediate relief, and the patients go on to permanent recovery without a more radical operation.

I was glad to hear the essayist speak of the comparative uselessness of local applications. Treatment by tampons, painting the parts with iodine, etc., is comparatively useless, about as useless as painting the chest with iodine when there are effusions for the purpose of absorbing the effusions. And the point the essayist made was very important, namely, avoiding intrauterine examinations with a probe, as I think infection is more frequently conveyed to the uterus and pelvis by meddling examinations than it is possible for any good to be done by topical applications, and it should be avoided except for diagnostic purposes, as, for instance, the detection of a fibroid, or something of that kind.

Dr. Denslow Lewis, of Chicago: Infection in non-puerperal cases, especially gonorrheal, would seem to extend by continuity of epithelial surface from the endometrium through the fimbriated extremity of the tube and pelvic peritoneum, where it is stopped by the agglutination of the peritoneum to the organs in the neighborhood, so that general peritonitis does not ensue. In puerperal cases infection is more apt to extend from a laceration of the cervix to the uterus and through the placental site, which, of course, is present in these cases, more or less; and in the others by the vascular and lymphatic systems, so that following labor we may find an abscess of the uterine musculature; whereas following an abortion we may find an abscess of the ovary. The procedures must be thorough in the two classes of cases. I would simply refer to the value of general treatment in many of these cases as they come to us several years after infection or labor has taken place, in dispensaries or in office practice. At one period of my life I treated many of these patients in dispensaries, and I was surprised at the results obtained by what may be called conservative treatment. I mean by that rest, free bowel movements secured by cascara, tam-

pons of ichthyol and glycerine applied twice a week, a douche twice a day, with the knee-chest position assumed twice a day. In many of these cases I suggested operation, which was refused. It was surprising to see how these patients recovered under a general plan of treatment, which goes to show that there is something to be gained by systematic treatment of this kind, however you may explain it.

Dr. C. S. Bacon, of Chicago: The subject of gonorrheal infection is one that interests all of us; and the question of puerperal gonorrhea is rather difficult to handle. The diagnosis is not so difficult to make as one would infer from the fact that it is so frequently mistaken. It is a rather late infection characterized largely by local and without very severe general symptoms.

As to the management of cases of puerperal gonorrhea, we are not in general agreement. If we could agree on any particular method of management, I have no doubt the patients would be much better off. In some of the cases I have seen more recently I have begun treatment with this understanding that the patient is to keep absolutely quiet in bed for a certain period of time, and whether it be three or six or ten weeks will depend upon the progress of the case. Let the patient know at the beginning what she is to expect, and any attempt to get her around before all local tenderness has subsided should be guarded against. What is to be done later in a case of gonorrheal infection is something very few of us know. Of course, I believe a secondary operation for gonorrheal salpingitis is just as much indicated as a secondary operation for an infected appendix. But there are times when we do not recommend the removal of an appendix removed, and so in some cases we would not advise operation for gonorrheal sacrosalpingitis. In doubtful cases, and in the acute cases, what is to be done more than simply rest is very uncertain.

Dr. P. L. Markley, of Rockford: I would like to ask the essayist a question in regard to the operative treatment of these cases. I believe, first, we should give nature a chance to effect a cure; but I want to ask him how long he would wait, after a reasonable chance had been given nature to effect a cure, before operating on cases of gonorrheal infection? I refer to those cases which have great pain and distress, but in which general treatment has been given, with little or no benefit. How long would he wait in these cases after the acute infection has subsided before we would operate?

Dr. George Schmauch, of Chicago: The essayist seems to be a little skeptical as to whether cold influences infection. In my opinion there is no doubt that cold may bring on peritonitis the same way as cold brings on cystitis. It acts as a predisposing cause. We know nowadays that we may have pyosalpinx in a virgin; we may have pyosalpinx in a typhoid fever case, and in many of these cases we do not know the exact cause, and we have to consider always the possibility of infection taking place through the sexual organs. The intestines are permeated with microorganisms, so that the human body is not a perfectly sterile body. Under certain

conditions, especially after taking meals, there are some organisms invading the circulating liquid. We have to make a distinction between gonococci and other microorganisms, because gonococci invade tissues without laceration of those tissues; whereas streptococci and other pathogenic microorganisms are not able to invade tissues through intact skin. Complete recovery after gonorrheal infection is not so rare. According to statistics, twenty or thirty per cent of the cases of pyosalpinx recover completely. According to statistics from Munich, in three months quite a percentage of women with inflammatory gonorrheal pyosalpinx recovered completely.

As to the use of rubber gloves in obstetrics, experience has shown that manual detachment of the placenta by rubber gloves and without gloves made no difference in morbidity. We have such a thing as auto-infection, and the main danger in introducing the hand is that we may carry infection from the vagina into the uterine cavity.

Hot douches, sitz baths, are useful. There is no other organ in the human system which contains so many blood vessels as the pelvis, and here we are able to produce by sitz baths and hot douches a hyperemia, which is followed by great relief.

In regard to tuberculosis, I think every tuberculous tube is secondary to a tuberculosis coming down from a diseased organ of the pelvis.

Dr. Watkins (closing the discussion): In regard to the secondary tubercular salpingitis, I inferred that we might have secondary infection not only from the peritoneum, but from a tubercular gland in the chest, the neck, or from a tubercular focus in any part of the body. I did not believe it was often the primary site of infections.

I am glad one of the speakers brought up the question of differentiation between ectopic gestation and salpingitis. In typical cases there is no difficulty attending the diagnosis. If the doctor will come to Chicago, I can show him a dozen of cases at Wesley Hospitals of tubal abortions and tubal pregnancy where we were absolutely unable to make a positive diagnosis before operation as to whether the cases were tubal pregnancy or salpingitis. We used all the means of diagnosis at our command save curetage, and we did not subject the patients to that. There is absolutely no difference in the blood findings, as we get the same leucocytosis or leucocyte count with ectopic pregnancy as we do with salpingitis. It was thought that a differential white count might help in the diagnosis, that we have more polymorphonuclear cells in the suppurative cases than in tubal pregnancy cases. Our results, however, have shown that this could not be relied on.

I am in thorough accord with what Dr. Allaben said with reference to vaginal section. I touched upon that point in part of my paper which I did not read, on account of lack of time.

In reply to the question of Dr. Markley, I will say that if one waits until the afebrile stage, it is perfectly safe to operate if the patient's condition is fairly good. The results seem to be as good from operating as soon as a febrile state

appears as when one waits one or two months longer.

I believe that Dr. Schmauch is right in saying that cold is an etiological factor, but not a direct cause, such as attending public picnics are etiological factors in some of these cases of pelvic infection.

I spoke of the migration of bacteria through the intestinal wall, and I feel firmly convinced in many cases that repeated attacks of acute pelvic infection are due to migrations of bacteria through the intestinal wall, and are not due to latent bacteria, which has received so much attention.

DIAGNOSIS AND TREATMENT OF LACERATION OF THE VAGINAL PORTION OF THE UTERUS AND FORNIX VAGINAE.*

BY L. H. A. NICKERSON, M. D., QUINCY.

At the request of Dr. Bacon I have prepared a paper with the above caption to be delivered before this society.

There is little more to be said about laceration or tear of the cervix since the day that Dr. T. A. Emmet first operated for a bi-lateral lacerated cervix, Nov. 27, 1862, followed by a paper read before the New York State Medical Society, September, 1874. His book, "Principles and Practice of Gynaecology," published in 1884, contains a full and succinct account of his original operation.

Dr. Sims, at the meeting of the New York State Society at which Dr. Emmet's paper was read, says: "We owe to Emmet a debt of gratitude for his valuable contribution to uterine surgery. Like all new operations it is likely to be abused, but the time will soon arrive when it will assume its place in the foremost rank of useful improvements, and I beg leave to move that formal vote of thanks be given Dr. Emmet for his most valuable contribution to surgery."

It is a most singular fact, that with all the great minds in the profession, so simple an operation should have been left for so long a time to be elucidated by Dr. Emmet. It stands as a monument to his memory more enduring than the "everlasting bronze."

Immediately after the accident occurs arterial hemorrhage may be so profuse as to

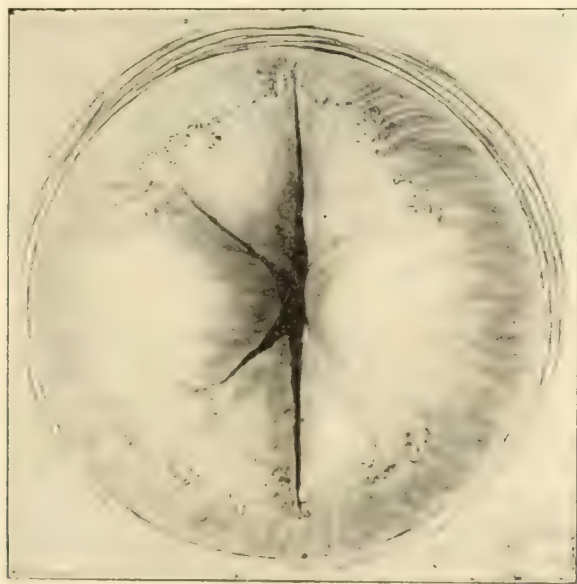
*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

demand prompt action to control it. Only in this condition would we advise a primary operation. The accoucheur should neither feel nor look for suspected laceration of the cervix except in cases of excessive arterial hemorrhage, as there are chances for infection. The examination may do more harm than the laceration, which may be simple and heal spontaneously. Some of our Chicago friends, whose armamentarium is complete, hospital accommodations perfect, with trained nurses galore and aseptic conditions the acme of perfection, may say operate at once, and save your patient the evil consequences of future endometritis, metritis, subinvolution and displacements with all their varied symptoms, and probably carcinomatous degeneration of the cervix. But our doctor with saddle bags, from "Stringtown" or some country cross road, should hesitate about taking such radical advice, as the danger of septic infection is too great; in addition the parts are soft and flabby; the tear may be ragged and irregular with projections

the hemorrhage and enable you to select the operative time for the lacerated cervix within about ten or twelve weeks. In this day of exact sciences and successful midwifery the accoucheur should not subject his patient to the danger of infection by a rigid examination directly after labor, but all cases should receive his careful examination some six weeks following delivery to discover any lesion of the pelvic organs.

Causes.—The act of parturition with rigidity of the cervix. The urging of the second stage with application of the forceps before the cervix is fully dilated, or sufficiently so, for the passage of the foetal head, which lies within the uterine cavity. Too rapid delivery after the forceps are applied is often the cause of a serious tear.

The disproportion of the foetus and the cervix, the unequal force at some point of the circumference of the outlet producing a rent which may extend into the fornix vaginae. Meddlesome midwifery, such as stimulating



No. 1.

of lacerated tissues. Moreover the chances of failure are great, this demoralizes the patient for a future necessary operation. A densely packed sterile tampon with a snug fitting T-bandage may be sufficient to arrest

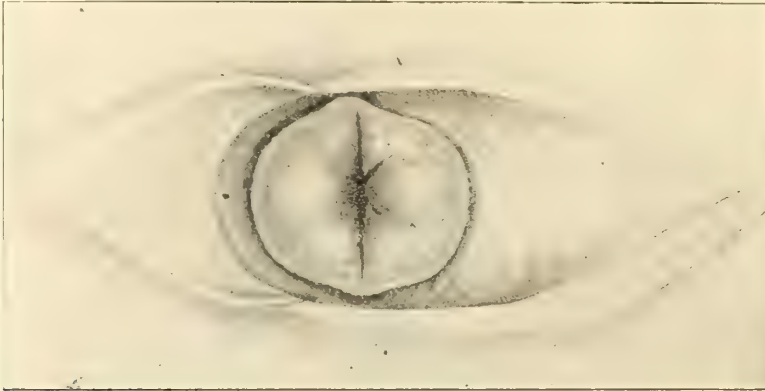
contraction of the os by titillation or the administration of ergot with pressure applied to fundus of the gravid uterus in prolonged or delayed parturition, and forcible dilation of the cervix in abortion. Any disease which

causes friability thereby impairing elasticity of the cervix.

Symptoms.—At the time of the accident there may be profuse hemorrhage, demanding prompt action by suturing the rent. An old laceration frequently causes menorrhagia or metrorrhagia from the cervix or from the endometrium. The secondary symptoms are those of the pathological results of the tear, such as endometritis, metritis, subinvolution and displacements, loss of blood, leucorrhoea and purulent discharges, which are the common factors in producing anaemia. The patient loses her strength, is easily tired, is nervous, irritable, has neuralgic pains, perverted sensations, and hallucinations. Appetite is lost, digestion poor, menstrual disorders, backache and headache, nutrition is insufficient, she becomes pale and haggard, has

pletely separating the anterior and posterior lips. The most common form is bi-lateral, and next to that is the uni-lateral, said to be more frequent on the left side. When there are more than two tears it is called stellate. (See diagram No. 1.)

There may be a congenital cleft which being bathed in the vaginal secretions, takes on all the pathological conditions of a cervix lacerated during labor. The condition is best seen by the use of Sims' speculum, the extent of the tear is shown, the puffy, thick and congested lip or lips are brought directly into view. They are covered with hard bodies formed by the obstructed glands, the cervical canal is filled with a thick, ropy, muco-gelatinous plug. The dense cicatricial tissue by narrowing the vaginal canal and by drawing



No. 2.

bearing down sensations and difficulty in walking. There may be sterility, with repeated abortions.

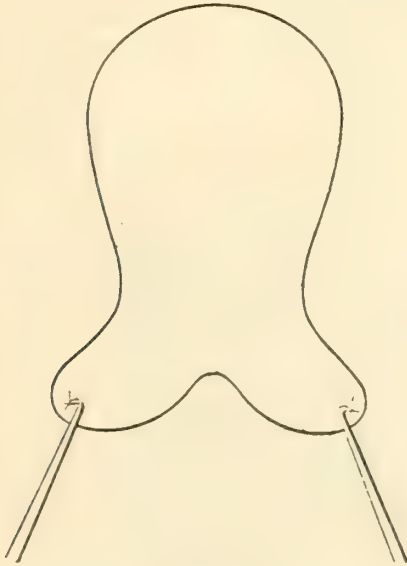
Digital examination reveals the laceration and its extent. On pressure the cervix is quite tender, especially at or near the angle of laceration, or some other distant point. The laceration is plainer to the touch than to inspection. All cervices after labor show more or less distinct evidence of injury. There may be one, two or many tears. They may be complete, that is to say, go through the entire thickness of the cervix and even extend beyond and into the fornix of the vagina, through its mucous membrane and well down into the connective tissue, com-

on the surrounding tissue causes displacement of some of the pelvic organs. The cicatricial tissue by impinging upon some nerve fiber may produce reflex nerve irritation. Emmet cites numerous cases; a brief report of one such will suffice. A patient with severe persistent neuralgia of the eye-ball consulted a number of distinguished ophthalmologists for the obstinate, long standing pain, one of whom advised extirpation of the eye as the only possible means of relief. She declined to have the eye removed; the pain continued. She was subsequently operated upon by Emmet for a lacerated cervix. He removed a large wedge shaped piece of cicatricial tissue from the angle of the wound, finishing the

technical operation, with immediate and permanent relief.

Diagnosis.—By the introduction of Sims' speculum and the sense of touch the diagnosis of a lacerated cervix is easily made. (See diagram No. 2.)

The older authors describe this condition under the caption of erosion, granular degen-



No. 3.

eration, cauliflower excrescence, and ulcer of the mouth of the womb, which, Emmet was the first writer to demonstrate as a misnomer. Sometimes the hyperplasia of the lips and cystic degeneration of the cervical follicles—the glands of Naboth—are so changed that a diagnosis from cancer may become difficult. The laceration of the cervix uteri causes marked out-rolling of the intra uterine tissue, which being accustomed to the mild alkaline secretion of the uterus, instead of being bathed in the irritating acid secretion of the vagina, and the everted membrane coming in contact with the vaginal wall becomes diseased, the mouth of the follicles is closed, the sacs become distended with a ropy, albuminous fluid; the cervix is congested, the lips are elongated, and subinvolution is a natural consequence. Many writers attribute cancer of the cervix to an unrepaired laceration. Craig says that 90% of cancer of cervix are due to this cause alone. If there is a doubt

the preliminary treatment will clear up the diagnosis. After the introduction of Sims' speculum the posterior lip is pulled forward with a tenaculum, and in like manner the anterior lip backward; a tenaculum being hooked well into the respective lips as indicated in the diagrams Nos. 3 and 4.

The everted mucous membrane is rolled inward, the body of the lips to a great extent disappears by this rolling in of the mucous membrane. By this means alone we are able to determine the tear, its extent, and the proper mode of procedure to secure the tissues in their formal normal condition, and effect a permanent cure.

Treatment.—The prophylaxis consists in abstaining from the application of the forceps before the cervix is fully dilated; from the use of ergot; from pressure on the fundus and titillation of the os; from all measures calculated to hasten the second stage of labor. On the other hand we should favor the use of drugs that cause dilatation, such as chloral and belladonna. Fresh tears that do not bleed may be treated with anti-septic vaginal injections and subsequently pledgets of



No. 4.

glycerite of tannin, (a dram to the ounce) placed in contact with the os, the dressing changed twice a day.

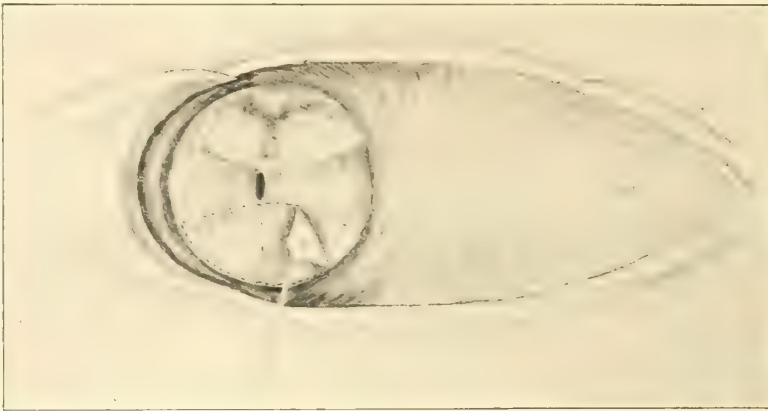
Prognosis.—Many cases of lacerated cervix heal spontaneously and give rise to no

pathological conditions. Sometimes tears that have healed give rise to all those nervous symptoms heretofore described due to the pressure from the newly formed cicatricial tissue. In neglected cases of laceration the whole system suffers and the patient becomes a wreck. Cancer of the cervix may develop with all its evil consequences. These cases properly treated and operated upon at the opportune time escape all the above pathological conditions of endometritis, metritis, and subinvolution.

Technic of the Operation.—Dudley says, "It is not necessarily the extent of laceration, but rather the degree of out-rolling that in-

ton saturated with boroglyceride is placed directly against the cervix and held in position by a pack which should be removed in twelve hours, and followed by a vaginal douche. Several such treatments may be necessary before the cervix is in condition for operation. The following instruments are required for the operation:

Sims' or Simon's speculum.
Two uterine tenacula.
Curved mouse toothed forceps.
Long dressing forceps.
Long handled scalpel.
Curved scissors.
Haemostatic forceps.



No. 5.

dicates the necessity for repair. A relatively slight laceration may give rise to extreme eversion and consequently to all of the pathological changes, already described, which belong to the false cervix. Furthermore, slight laceration without eversion may, if associated with great cicatricial formation or cystic degeneration, give rise to very distressing symptoms. On the other hand a deep laceration may cause little or no disturbance."

Preparatory Treatment.—If the cervix is greatly thickened and congested, with cystic enlargement, preparatory treatment is desirable, with rest in bed, hot vaginal douches, once or twice daily, puncturing and destroying the cysts, draining the congested lips every four or five days by puncturing them in four or five places with a narrow knife blade. After each treatment a pledget of cot-

Needle forceps.
Short needles slightly curved at point.
Gauze sponges.
Catgut, silkworm gut and silk.
Uterine dilator.
Curettes.

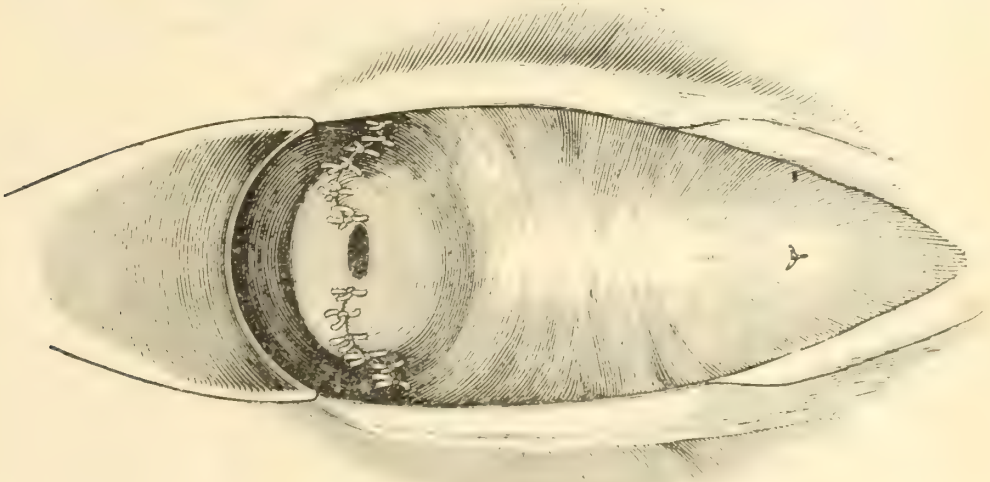
Under anaesthesia, the patient being placed on her back, the pubes may or may not be shaved, the vagina and external genitals are thoroughly washed with water and soap followed with sterile water, then completed by an additional washing with bi-chloride of mercury solution, 1 to 2,000. Simon's speculum is introduced, the uterus is now dilated and curetted, and then swabbed out with carbolic acid. This disinfects the endometrium and prevents the infection of the newly denuded surface. If curettement is not done preceding the operation, septic infection may

follow with failure of union of the lips and general inflammation.

A strong silk ligature is passed in the middle of each lip; these guides will steady the uterus, separate or approximate the lips and map out the center of the uterine canal, and will further facilitate the operation. They will act as a land mark for a perfect operation. The removal of the dense accumulation of scar tissue at the angle of the wound is of the utmost importance, for the failure to remove it may account for the continuation of the neuralgic and reflex pains. We commence the operation by cutting through this cicatricial tissue in the angles—with a scalpel—well down into the healthy uterine muscle, and then outlining the surface to be denuded on both anterior and posterior lips, the outline extending from the end of

of an inch in diameter must be left undenuded for the cervical canal. This strip must be left wide, for in subinvolution and contraction of the tissues, the outlet will be much narrowed. If left too narrow we may have a stenosis with all its evil consequences. With the lips all well outlined we are ready to begin denuding the surfaces. By catching and lifting up the lower edge of the tissue with mouse toothed forceps the surface is removed with either a sharp knife or with curved scissors. (See diagram No. 5.)

There is but little bleeding, which if not controlled by torsion, may require a fine catgut ligature. All oozing will cease on oring the lips firmly together. The sutures should be silkworm gut, or catgut. If the perineum is repaired at the same time, absorbable catgut may be used exclusively in



No. 6.

each incision in the angle to the lower end of each lip.

If the laceration is bi-lateral a similar incision is made in the angle of the opposite side and the area to be removed is similarly outlined on the lips of that side when we have four denuded surfaces. The object in this preliminary outlining is to be sure of removing the cicatricial tissue at the angles and to have the denuded surfaces of each lip of equal area; thus when the lips are brought in apposition there will be perfect adjustment. A strip of mucous membranous half

the cervix. The sutures should be passed under the denuded surfaces and not through them; by so doing there is less liability of infection of the wound. As a rule two or three silkworm gut sutures on each side will be sufficient; fine, superficial catgut sutures may be used between them to secure accurate union.

The next step is to introduce the sutures. For the first suture, the needle is pushed in a quarter of an inch outside of one of the denuded surfaces of the posterior lip near the angle; it is carried transversely under the

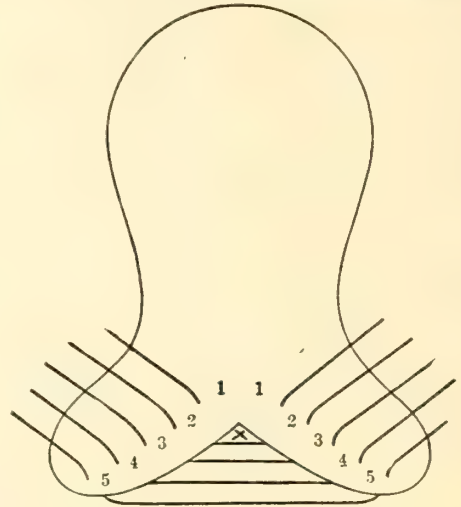
denuded surface and made to emerge at the line of demarcation between this and the undenuded central surface. Next the needle is inserted in the corresponding part of the anterior lip and carried outwardly under the denuded surface, and the point made to emerge one quarter of an inch to the outside of it, corresponding to the point where the needle was first introduced.

Counter pressure may be used to facilitate its passage. The needle may carry a silk thread loop to aid in placing the silkworm or catgut ligatures. As a rule three such sutures are needed on each side, two may be all that are required. The sutures are introduced in like manner on the opposite side, where they are tied from above downward. (See diagram No. 6.)

Fine superficial catgut sutures are used to secure accurate union between the silk worm

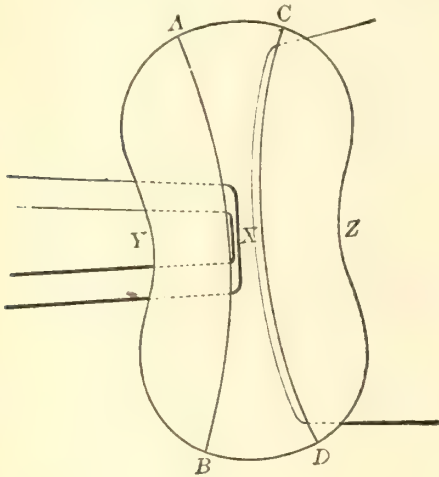
sutures need not be touched for four weeks or longer."

The sutures are more readily exposed and removed with the patient in the left lateral



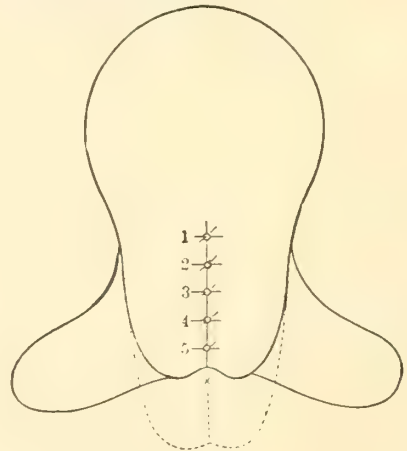
No. 8.

position with Sims speculum adjusted. After the adjustment of the sutures the parts are thoroughly irrigated with sterile water, followed by a bi-chloride solution 1 to 2000. A pack of loose, sterile gauze is then introduced for two or three days, to absorb the discharges, then follow with a vulvar pad. The patient should stay in the recumbent posture



No. 7.

gut. The silk worm gut sutures are cut about one inch in length and all clamped on either side with perforated shot to facilitate their removal. Dudley says, "If the perineum is closed at the same time the difficulty in the removal of the sutures may justify the use of absorbable catgut, which does not have to be removed." Kelley says, "Where no operation has been performed at the vaginal outlet the cervical sutures may be removed in ten days or two weeks. When the outlet has been repaired the cervical



No. 9.

some ten days after the removal of the sutures. If the laceration extends well into the fornix vaginae the incision should extend

from the angles into the fornix, removing such cicatricial tissue as may have been formed, and introducing the sutures as represented in diagram No. 6.

The principle of a lacerated cervix and the marked effect of an operation are so well shown by Dudley that I will take the liberty to use his diagrams and quote him in full. (See diagrams Nos. 7, 8 and 9.)

"This principle is illustrated by the dotted lines in diagram No. 7; the surface between

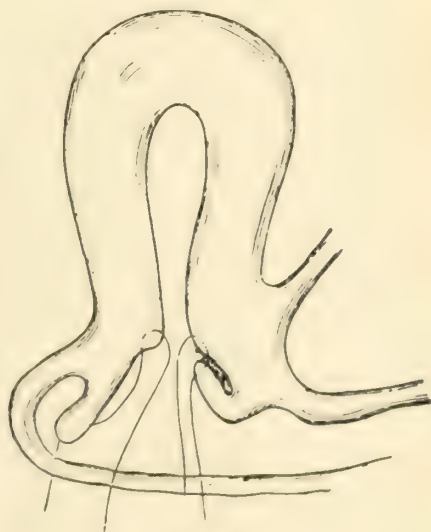


No. 10.

the lines AB and CD is left undenuded, to form that part of the cervical canal which is to be restored. Two sutures, as indicated, have been passed, one on one side and one on the opposite side. When all the sutures have been tied they will bring the surface A. Y. X. Z. C. in contact with the surface B. Y. X. Z. D. in such a manner that point A will coincide with point B, and point C with point D. The lines AC and BD will then bound the restored external os. Diagram No. 8 shows the same laceration from another point of view. The sutures on one side are represented as all having been introduced before any are tied. This was the plan formerly pursued when the silver suture was used. It is better to tie the silkworm gut or catgut sutures as they are introduced. Diagram No. 9 shows the sutures tied, the everted mucosa rolled in, and the operation complete."

Stellate laceration may in some cases be treated as individual tears, or if two are very near together, they may be changed into one by lopping off the intervening lobe; then proceed as in a bi-lateral laceration. If there is extensive cystic degeneration, great thickening and hyperplasia of the lips to such an extent that when brought together two convex surfaces are in apposition, in which condition the pressure would cause the sutures to cut out; or where the lips are of unequal length. Under these conditions considerable of the tissue should be removed by resection of the cervix, as in Schroeder's operation. The diseased tissue is removed by incisions as indicated in Diagram No. 10.

The vaginal margins of the wound are stitched, both anteriorly and posteriorly, with fine chromatized catgut to the margins of the intra-cervical mucous membrane. By this means the anterior and posterior lips of the cervix are folded upon themselves as shown in Diagram No. 11.



No. 11.

The first stage of the operation is complete. The remainder of the operation is the same as already described.

The effect of the operation for a lacerated cervix, both locally and as to general health, is often wonderful. The subinvolution, nervous symptoms, neuralgic and reflex pains disappear. The patient gains in flesh, be-

comes cheerful, happy, and in a short time is fully restored to health. She may subsequently become pregnant, and delivery at full term is accomplished without a tear at the new line of union.

SUBPARIETAL INJURIES OF THE KIDNEYS WITH EXHIBITION OF A CASE.*

BY WILLIAM FULLER, M. D., CHICAGO.

Under the title "Subparietal Injuries of the Kidneys," much has been written. The subject is a very old one; it was written about by Celsus, who was first to recognize the symptoms by which this condition is characterized today. It has furnished the surgeon with many complex problems, and some of them are not well understood even now.

The title as stated gives no idea as to what may be expected in the perusal of many papers published under this heading; indeed it is often a sad disappointment in reviewing some of them, because they describe principally injuries aside from kidney injuries, the latter frequently receiving but scant mention. Moreover these articles deal alike with cases with and without complications; no distinction whatever with reference to the kinds of violence being attempted. It should be borne in mind at the outset that these complications, especially in indirect violence, are numerous and so great in extent and grave in character, that the actual kidney wound is of but comparatively little importance.

Renal wounds sustained in almost any manner may amount to nothing more than the merest contusion of but the smallest portion of the organ, and but slightly, if at all, disturbing its function; or it may be so seriously damaged that its function is immediately and permanently suspended. It is also a fact that a constant and definite ratio will not always be found between a renal injury and its clinical manifestations.

The case presently to be reported shows, as do others found in the literature, that the most extensive renal injury may be unat-

tended by severe symptoms or by any symptoms whatever, while a slight injury may be followed by very pronounced symptoms.

Of all injuries to the kidney, Keen, as well as other surgeons, states that the subcutaneous injury is the most frequent. The statistics of Edler, as well as those of Herzog, are in accord with Keen's opinion on this point. The latter writer reported 17 cases of this sort, and 16 of them were of the subcutaneous variety.

According to Morris (Surgical Diseases of the Kidney) the damage suffered by the kidney is more often serious than otherwise. In 31 cases reported by him, including all kinds of injuries, 26 were ruptures.

It is the opinion of all writers that the accident occurs more frequently on the right side than on the left, and is found in the male much oftener than in the female. Kuster collected 272 cases and found 142 on the right side, 118 on the left, and 12 bilateral. Relative frequency of kidney injury in the two sexes is explained in various ways by the different writers; but the explanation advanced by Kuster seems the most reasonable, and is doubtless correct. This observer does not believe that the greater frequency of this accident in the male subject is a question of occupation, but that the shape of the female body, with its broader iliac crest, as well as the peculiarity in female attire, afford greater protection to the kidney in women.

The subject of kidney surgery, in many of its phases, has been well worked out, but the part of the question under discussion seems to lack a unanimity of opinion on the part of many surgeons. This particular feature of the subject has been carefully reviewed, and it is difficult to agree with all that has been written upon it. From an experience that is small compared to some, I realize the possibility of error into which I have been led in the conclusions reached, owing to the fact that they are somewhat at variance with the generally accepted opinions in reference to these points.

The purpose, therefore, of this paper is to present for your consideration a few items in connection with kidney injuries which

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

have hitherto failed to keep pace with the remainder of the subject.

The first, and probably the most essential one, is the nature of the kidney lesion itself; and more especially the degree and kind of violence necessary to produce such a wound. The second is the manner in which selections of cases have previously been made. This point has special value, if we would establish a mortality rate upon which reliance is to be placed. Many papers, and excellent ones too, are to be found in the literature on subparietal kidney injuries, but they contain such striking discrepancies regarding this point, that an accurate death rate is far from being realized. The third and last point is to draw attention to a brief review of the symptoms which, under ordinary circumstances, are to be found in this accident.

G. Schmidt (*Deutsche Militararztliche Zeitsche*. 1902, No. 12) collected 360 cases of subcutaneous kidney injuries from the entire literature, and showed a mortality of 9.1 per cent, while Kuster showed in 306 cases a mortality of 47 per cent. Some writers have shown a death rate even higher than this; which fact alone seems justification for studying the subject with hope that it will not be in vain.

In the judgment of the writer the extremes representing the mortality in kidney injuries, are the result of the manner in which the selections of cases have been made. Cases have been reported without due account of the wound of the kidney, and without reference to the manner in which violence or force was applied. In other words, in analyzing these cases, special stress has not been laid upon the distinction in the various types of injury necessary to wound the kidney. Direct and indirect force have figured about equal with many writers in summarizing the evidence for the purpose of determining a death rate. Distinction has not been made between force which is concentrated and confined to an area corresponding in size to, and over that of the kidney, and force which is greatly diffused and involving a much greater area. In this latter class of cases, as well as many of those produced by any form of indirect injury, like

squeezing the body between two moving objects or when thrown with great violence to the ground, an isolated renal injury will more often be the exception than the rule. Indirect violence when applied to the body will, when rupturing the kidney, likewise injure the liver or spleen or both. Just why such cases have been classed with those of kidney injuries is not quite clear. They have not only been classed as such, but have been utilized in determining a mortality rate of this accident. Not only will cases thus included mislead one in searching for figures with which the aim is to show a true mortality, but nothing reliable in the way of a symptomatology can ever be expected.

If we would establish a mortality rate in thigh amputations, in operations for hernia, or if we would assign symptoms characterizing these conditions, cases possessing complications would certainly be excluded. So it should be then with renal injuries; if this lesion has a symptomatology nothing would alter and obscure it quicker than cases with accessory injuries. Symptoms occurring in cases like the latter are not symptoms or manifestations of kidney lesions at all, and should never be so regarded. In fact many renal injuries have shown such extensive and serious injuries aside from the kidney injury, that the latter plays a minor role in the condition found. It therefore appears needless to add that a great reduction in the death rate of kidney injuries can not be hoped for, or that useful clinical data be obtained until a better classification of the cases is made.

It follows, therefore, that in order to get a better understanding with points touched upon, that such cases as have renal wounds only, should be selected. Cases produced as a rule by direct violence, or other type of injury if complications are absent. It seems quite needless to add that clinical findings in such a list of cases as this will typify kidney injury, and exceptionally any condition other than this. Information obtained in this manner would be quite constant, reliable and trustworthy.

It should not be forgotten that in a small per cent of cases evidence thus gained would

not always harmonize with facts, but this can be said of any condition, and is due to individual peculiarities and extreme variation in the degrees of injury.

Some sort of kidney injury may be suspected when an individual gives a history of having received a violent blow over the kidney region, especially if such injury be followed by the passage of bloody urine, and pain and tenderness over the kidney area. There may be shock, complete or partial, coming on at once or delayed, accompanied by nausea and vomiting, a quickening of the pulse, and often a subnormal temperature. These symptoms may be mild or severe, and will depend on circumstances above alluded to. It is fair to assume, however, that in the average run of cases thus occurring these clinical features will approximately be exhibited.

It requires, under all circumstances, discriminating judgment, because the exact manner in which the accident takes place is not always easy to ascertain.

Hematuria would suggest itself as being the most constant and noteworthy symptom of renal injury. In 75 cases collected by Maas it occurred in 86 per cent. But as shown by Morris, Keen and others, it is not necessarily an indication of a lacerated kidney. Hematuria may result from a lesion situated anywhere between the meatus urinarius and the kidney pelvis. It is easy to understand how the presence of a lesion, which had previous to an injury never given trouble, might become the seat of considerable and persistent hemorrhage.

Morris (*Surgical Diseases of the Kidneys*) reports a case of a boy who by merely striking his side could produce a hematuria which would last for days; this case was due to a villous growth in the bladder. Toxic hematuria and bleeding excited by irritants as emphasized by Morris should be remembered.

Again it should not be overlooked that hemorrhage from a lacerated kidney may be very slight or absent altogether.

Erichsen (*Science and Art of Surgery*) gives a description of two cases which came

under his observation and blood in the urine occurred in neither one.

C. A. Powers (*Trans. New York Acad. of Med.*, 1887) also describes a case of a woman 53 years of age who received an injury which lacerated her kidney from which she died on the third day; no blood was passed in the urine.

Probably the most interesting case of this kind is one reported by Charteris (*Lancet*, 1880, Vol. 1, p. 90). The accident occurred to a man 45 years old, who fell, striking his side against the corner of the table; this man passed no blood in his urine and had neither pain nor tenderness in his side, or elsewhere about his body. There was no acceleration of the pulse nor elevation of the temperature. Vomiting, however, was a symptom which supervened at once and persisted till his death, which occurred on the 30th day after the accident.

Autopsy revealed a perinephric abscess containing 26 ounces of pus. There was a transverse rupture of the kidney, dividing the organ in two equal parts; the upper one having attached the renal vessels and ureter, and the lower segment entirely stripped of its capsule.

Cases of this kind are of course rare, but should be remembered as they serve a good purpose in summing up the evidence in many renal injuries.

The apparently trivial injury which at times may separate the kidney from its vessels and ureters, and the proneness of the former to become thrombosed under such interference with the circulation, would lead us at first to believe, if Morris' theory regarding the greater frequency of severe injuries of the kidney is true, that hematuria is a symptom which would be more often absent than present.

Dr. T. A. Davis (*Ann. of Surg.*, 1902, Vol. XXXVI, p. 346) has tersely expressed the facts relative to the diagnosis of kidney injury. He says: "That a knowledge of the degree, direction, and point of application of the force and the nature of the vulnerating body in direct violence throws as much light on these cases as it does in the study of frac-

tures." The proof of this is afforded by reviewing a collection of reported cases from most any writer. For instance, the nine cases reported by Dodge (*Ann. of Surg.*, Dec., 1902) is a good example. Three of these cases are reported as "simple ruptures" and as having been produced by indirect injury; two of the three cases were run over and dragged several feet. The three cases presented the usual symptoms of renal injury, were treated conservatively and all recovered. Six of the cases were subjected to operations and it is interesting to note that four of the six were indirect injuries, and two of the four had complicating injuries and did not recover. Two cases were produced by direct violence, in which there were no complications, and both recovered.

Considering the great number of conditions which give rise to signs and symptoms identical almost to those found in kidney injury, the utter worthlessness of reporting cases thus symptomatized as *renal* injuries is very evident. It follows, therefore, that some doubt should be entertained regarding reports of such cases, especially when they lack confirmation by exploratory operation or autopsy.

Given a case then with kidney injury, in an individual previously well, what is the most rational plan of treatment?

Operations on the kidney are always undertaken with greater assurance and confidence when the sound kidney is known to possess its normal condition, anatomically and functionally. This evidence is obtainable under nearly all conditions other than injury, without much difficulty. While the information is no less valuable, perhaps, in the latter condition, to secure such is not always an easy matter, for reasons which are obvious. The patient's condition very frequently calling for immediate interference, and bloody urine rendering it impossible to obtain information by bladder instrumentation.

If it be remembered that the utmost conservatism should be exercised on all occasions when dealing directly with an exposed and injured kidney, after all, a knowledge of the state of the uninjured organ, would not be of

great importance. Nature, aided by the wisdom of a careful and competent surgeon, may frequently enable a badly crippled kidney to resume its function; and this applies not alone to the kidney as a whole, but to a minor portion as well. The animal experiments conducted by Dolyoff, to which we may add the clinical reports of Keen, place the operation of partial nephrectomy without doubt as the operation of choice, and should be executed in all cases when feasible. Collins (*Lancet*, 1902, Jan. 25) reports the case of a ruptured kidney consecutive to a run-over. He performed a partial nephrectomy, and had a good result.

It is far better to do a secondary operation and make a total nephrectomy, than to do such an operation primarily on an organ, a part of which even might have otherwise been restored to usefulness. In this connection, however, I deem it wise to take into consideration the advice of Keen on this point who says that secondary nephrectomy is four times as fatal as primary. With reference to this I am without an opinion, but it does seem that if the surgical indications could be correctly interpreted and properly and judiciously met in primary operations, that the necessity of secondary nephrectomy would become a great rarity.

The retroperitoneal location of the kidney and its easy accessibility place the surgical attack of this organ, with reference to danger, in the category of minor operations, and should have, in competent hands, no mortality. It would appear after carefully weighing all evidence obtainable, that for cases properly belonging to this subject, there is but one indication, and that is immediate operation.

The incision which is necessary to expose a kidney to view is the work of but two or three minutes, is perfectly safe and without danger, detracting in no way from the patient's chances of recovery. A kidney which is unexposed and is the seat of injury is a menace to life, and hourly lessens the patient's chances of living.

In confirmation of this point we can not do better than heed the advice of Dr. Bevan

(Chicago Med. Rec., 1904, p. 199), who has had an extensive experience in kidney surgery. This surgeon says, after analyzing the late methods of diagnostic value, that: "Exploratory operations must be, in spite of our newer and more accurate means of diagnosis, occasionally resorted to. I have no hesitation in saying that I still consider at least 10 per cent and possibly considerably more of my kidney operations as exploratory, and am not surprised to find hypernephroma where I regarded tuberculosis as the most probable cause, and vice versa." This writer further adds that "Exploratory operations will always retain a place as a means of diagnosis in kidney surgery." If Dr. Bevan is right in his "10 per cent or considerably more" with reference to the class of cases described by him, does it seem irrational to increase his per cent even to 100, if by so doing it will give a lower mortality to a class of cases infinitely more serious and more urgently demanding prompt surgical treatment. The atypical cases and those with few and mild symptoms are the ones to be feared, but can be properly managed by bearing in mind their occasional occurrence. A case in point is that of Mynter (*Ann. of Surg.*, 1891, No. 14). This surgeon reported the case of a brakeman who proceeded with his work for some time after receiving an injury which completely pulped half the kidney. Of this class my own case furnishes a good example.

The patient was a boy 9 years of age; perfectly well previous to his accident, which happened Oct. 8, 1904. While alighting from a street car, he fell or was thrown against another car; the blow he received was directly over the left side corresponding to the kidney area. The force did not appear to be severe as stated by those who witnessed the accident; it, however, knocked him over, but he regained his feet at once and ran away. He soon felt faint and vomited; he reached his home shortly after the accident, where he was seen by a physician who made a thorough examination and found the following condition: The boy showed a pallor, had a pulse of 100 and a subnormal temperature. He complained of pain over the left side confined exactly to the kidney area, and

was positive that this was where the car struck him. A careful examination of this portion of the body surface revealed nothing in the way of trauma. Palpation of this area, however, elicited pain and tenderness over the point above mentioned. No swelling or undue prominence in this locality was noticed. Previous to the doctor's visit the boy passed urine which the mother said contained blood. The patient was put to bed and the side strapped with adhesive plaster and ice bags applied.

I saw the patient 24 hours later and his condition had not materially changed, nor did his condition seem at all serious. The pulse was 80 and the temperature was 100. The respirations were about 40, and inclined to be short and jerky; he did not look exactly pale but showed a jaundiced condition of the skin. He had vomited several times during the night previous, and had, as his mother said, "talked out of his head." The bowels had not moved, and the urine which had been voided frequently did not appear to the naked eye to contain blood. An examination of the abdomen and loin showed the former to be distended everywhere but tender to touch only in the left upper portion; the loin was also tender, but did not give evidence by either palpation or percussion that serious damage existed. During my visit the patient urinated but macroscopically it did not contain blood. The nausea and vomiting had ceased and the actual damage impressed me as being slight.

A favorable prognosis was given and continuation of the former physician's treatment advised. There was no change in his condition till late the next night, at which time I saw him for the second time. His pulse was 110, the temperature 101, and respirations 50; the bowels had moved by enema, and the delirium was about the same. He was removed some distance to a hospital, and it being late at night, he was made ready for an operation early the next morning. At my visit, which was very early, he appeared better; the temperature was 100.6, pulse 100 and respirations again 40; the bowels had moved well, and 10 ounces of urine had been passed microscopically free from blood. Although

his symptoms seemed to indicate improvement, the icterus in the skin had not lessened. Over the kidney area another thorough examination afforded no additional information. In view of the apparent improvement it was deemed advisable to postpone the operation. During the next 24 hours the bowels moved and the urine showed no blood; but the jaundiced condition became more intense and the delirium more noticeable. All other symptoms were about the same, but the general appearance of the boy was not good. He was taken at once to the operating room and the operation performed.

A vertical incision to the outer side of the erector spinae muscle exposed the perirenal space showing the tissues markedly changed in appearance. When the circumrenal structures were divided there was a gush of perhaps more than a pint of fluid, which was evidently a mixture of blood and urine. Deep within the kidney space several blood clots were found and removed, which gave, when the margins of the wound were forcibly retracted, a good view of the injury done.

In the depth of the wound lay the kidney, showing first a transverse rupture which had divided the organ into two equal parts. The capsule was stripped from both halves of the kidney, and the upper half was lying about at a right angle to the long axis of the organ, and through it a second rupture was seen, which separated it in halves. The injury had not only thus damaged the kidney, but had also separated the organ from the renal vessels and ureter. The operation was completed by merely lifting the fragments of the kidney from the wound; not a single ligature was used, as no bleeding vessels were seen. The cavity was well sponged out, gauze drainage introduced, the wound closed moderately close around it, and the patient put to bed.

Shortly after the operation the temperature rose to 101 and the pulse 120; this was of short duration, as the following morning found him with all the symptoms normal and they so remained, till his discharge from the hospital, which was at the end of about 20 days.

His convalescence was so ideal and uninterrupted that nothing of interest can be said of his after history, except possibly the daily increase of urine excreted, which showed compensatory and very satisfactory function of the remaining kidney.

Of more than passing interest are two points with reference to kidney lesions, as yet unmentioned; these are, first, the curious cases which are attributed to violent muscular contraction, in which the kidney is ruptured. The second is the mechanism of the laceration, regarding which many opinions have been adduced. Regarding the former, it must necessarily be very rare; the case of Voit (* * * * *) serves a good example: A woman was grasped about the waist while waltzing; pain and hematuria followed immediately; the operation was performed for continued bleeding and at the operation the kidney was found ruptured. Such cases are infrequent and are very exceptionally subjected to operation, and from what has already been said, are not of great importance.

Kuster's theories of kidney rupture have received the indorsement of the majority of surgeons, and are familiar to all. The sudden adduction of the last two ribs will explain the injury when the violence is applied from a certain direction. His physico-hydraulic theory appears likely, and doubtless would satisfactorily explain the injury in most cases. Multiple ruptures occur sometimes and are explained by Grawitz, who says they are due to fetal divisions of the kidney into "Renculi." Other observers claim that kidney rupture are frequently accounted for by the fact that the organ has been rendered friable through some previous pathologic change.

This would appear to be likely, but it must be remembered that people whose renal organs have thus reached this state of structural change, necessarily crippling the function, are not people who follow arduous occupations and indulge in violent exercises, and consequently are not those who would be likely to receive kidney or any other injury.

If the above statements are founded on

facts, a brief summary would warrant the following: That a better classification of cases with reference to the kinds of violence producing this condition, and by the exclusion of all cases possessing serious complications, early operation under most circumstances would materially reduce the mortality rate in subcutaneous kidney injuries.

THE USE OF THE TENT IN THE TREATMENT OF TUBERCULOSIS.*

BY J. W. PETTIT, M. D., OTTAWA.

The great difficulties encountered in carrying out the open air treatment of tuberculosis are so formidable that any method which will cheapen or simplify the treatment should be favorably considered. The cheapest, simplest and least expensive method, which will protect a patient from the inclemency of the weather and supply him with the largest possible amount of the best possible air is the one which commends itself for scientific and economic reasons. A properly constructed tent fulfils these conditions more perfectly than any plan yet devised.

The probable reason why the tent is not more in use is because of the popular misconception as to its discomforts. Its advantages in more equable climates are not questioned. It has been assumed that it is impracticable in unfavorable climates, especially in zero weather. It was perfectly natural that sanatoria for the treatment of tuberculosis should at first copy the usual methods of hospital construction, hence has risen an altogether too expensive an ideal. Fresh air is the cheapest thing in the world. Our aim should be to supply the maximum amount of pure air at a minimum expense.

In favorable climates the tent has been used very largely and successfully, but it did not occur to even its most sanguine supporters that it was practicable in unfavorable climates. It was more by accident than design that it has been discovered that tent life is just as applicable and even more effi-

cient in cold than in warm climates. At first thought it seems incredible that patients can be made comfortable in an ordinary tent at a temperature of twenty-five degrees below zero. Yet this is just what the patients at the Ottawa Tent Colony have done during the past winter, one of the most severe we have experienced in the northwest for many years.

Inasmuch as no systematic attempt had ever been made to treat tuberculosis in Illinois by modern methods, the State Medical Society established a Tent Colony to demonstrate that this disease can be as successfully treated there as elsewhere. The demonstration was only intended to cover a period of a few months. Hence it was desirable that the equipment be inexpensive. To this end the tent was adopted. It was not believed at the time that this method would be feasible in cold weather, or would be accepted by the patients even if it were; therefore a large building was secured where they could be housed during the winter. A part of this building was arranged for a dining room and kitchen and the tents pitched round about it with the understanding that as the cold weather came on, patients could move in at their pleasure. In order to keep them out as long as possible, each tent was supplied with an oil stove, which was expected to provide only sufficient warmth for chilly or moderately cold weather. It was anticipated that as it grew colder the patients would go indoors. But not so. They all, even the most delicate women, stayed in their tents. Instead of suffering from the cold they were comfortable and rather enjoyed the experience. Several of those who were accustomed to living in frame houses, declared they would have been less comfortable had they been at home. Even new arrivals during the extremely cold weather, insisted upon going into tents. This was believed to be too severe a test, but in no instance had we cause to regret yielding to the entreaties of the patients. Their action is the more remarkable when we take into account that many, if not most of them, had come from homes where it was difficult to drive them away from the

*Read before the National Association for the Prevention of Tuberculosis, Washington, D. C., May 19, 1905.

vitiated and superheated atmosphere of badly ventilated houses.

Since it has been demonstrated that the tent is practicable in cold climates, it should be used more extensively. It fulfills the conditions most perfectly from a scientific standpoint. The method of construction is not very important as it is difficult to foul the air of a tent even when no means of ventilation are provided. It is a very easy matter, however, to provide for ventilation and it should be done. From an economic standpoint the tent certainly commends itself. The housing of tuberculous patients in buildings is not only unnecessary, but is in violation to an essential principle which has for its object providing the patient with fresh air. This method is as irrational as it is expensive. The only argument that can reasonably be adduced for placing patients in buildings is that it is necessary to keep them warm. It costs from four to five hundred dollars to house a patient in an ordinary building according to the plan usually followed in hospital construction. A tent with necessary furnishings need not cost more than one-tenth this sum.

The difficulty in keeping patients in the open air is well known. Every temptation placed before them in the way of indoor comforts only adds to the difficulty. As well might we seat a hungry man at a table laden with good food and expect him not to eat, as to place a tuberculous patient in a comfortable building and expect him to keep his doors and windows open. A few patients will do it, more will not.

The privacy of the patient's sleeping apartments should be preserved. This can be done in a tent without violating an essential principle of treatment, but cannot in a building without adding enormously to the expense.

To be consistent we must keep our patients out of doors. Not part of the time, but all the time. In no other way can this be done so easily and satisfactorily as in a tent. It is generally conceded that a tent is an ideal method of housing tuberculous patients in a mild climate. Every argument which may be urged in favor of its use in a mild climate,

applies with equal force to any section of the United States.

Precedent, prejudice, misconception and ignorance must be overcome before the value of the tent in the treatment of tuberculosis will be realized. No amount of argument will settle this question. A practicable demonstration is all that is needed to convince the most skeptical.

Any proposition looking to the care of the vast army of consumptives resolves itself in its final analysis into a question of dollars and cents. It is not possible, except on the most extravagant scale to provide for even a majority of these sufferers; therefore it is the duty of those most prominently identified with their care not only to devise inexpensive methods, but to firmly oppose the present tendency to extravagance and lavish display, which characterizes nearly all our public institutions. By the more general use of the tent we will more nearly conform to scientific principles and enlarge the scope and usefulness of the modern treatment of tuberculosis.

Whatever objection may be urged against the tent it certainly has been proven that the housing of tuberculous patients in substantial buildings is not necessary in order to make them comfortable.

A NEW PROCEDURE FOR OPENING THE PERICARDIUM.*

BY J. H. BACON, M. D., CLEVELAND, OHIO.

It may seem that one who has been working along pathological lines is a field in developing an operation, but that is a logical origin. One who performs post mortem examinations, frequently finds conditions that are overlooked clinically, conditions that could be taken advantage of in some cases and lives saved if they had been recognized.

A fact of common knowledge is that pericarditis is found much more frequently at the autopsy table than in the ward. I do not cast the slightest reflection upon clinical men, one has but to try to work up a subject

*Read at the 55th Annual Meeting, Brook House, I. May 17, 1905.

from a pathological side and examine autopsy records to find short comings there. Incomplete examinations.

In 610 autopsies performed at the Lakeside hospital, there have been 74 cases of pericarditis, exclusive of 102 cases of hydropericardium and serous pericarditis. These last two conditions so often grade into each other that I have classed them together.

Remembering the story told by Dr. Osler, to his classes, of a London professor, who was called in consultation by one of his former interns and discovered a pericarditis that had not been recognized. The young doctor was much chagrined and expressed his feelings. The professor replied: "Never mind, you might have treated it." This but expresses the feelings in part of many of the physicians and surgeons in respect to the more severe cases.

As I found conditions present in the pericardial cavity that would not be treated elsewhere so sparingly as they are here, it seemed that the difficulty of approach would explain their neglect. I had been impressed as I lifted the sternum after I had severed the cartilages and ribs on either side by the broad connection of the posterior surface of sternum with the anterior surface of the pericardium. The pleura form the lateral boundaries to this tissue of the anterior mediastinum. This formed, what it seemed to me, a feasible route for attacking the pericardium as it has a correct anatomical basis.

The anterior surface of the pericardium does not come into immediate contact with the posterior surface of the lower one-third of the sternum, but is separated by a layer of pericardial fat, which sometimes contains lymphatic glands, but for our purposes, it is just as practical.

In some pathological conditions, as with an adherent obliterative pericarditis, fibrous tissue invades this fatty tissue, and then there is a direct union.

The size and shape of this area varies. Voinitch and Sionojensky have worked out a composite picture of the cases in their experience. It forms a triangle with the base lying to the left of the mid-line and opposite

the 5th I. S. and the apex extending down the 5th I. S. While I have not worked out a composite picture, I have not found a single case in 90 autopsies, that has failed to have an area of connection one would miss by going through the sternum at this point. Using this as a basis, the skin incision is made parallel to the mid-line of the sternum and one-half c.m. to its left, extending from the upper level of the 5th costal cartilage to the level of the lower border of the 6th costal cartilage, where they join the sternum. This incision is deepened till the sternum is exposed. It is then laid bare for about a square inch and the peri-ostium is raised, leaving it connected over the upper part. With a trephine three-fourth inch in diameter, a circular window is made through the bone, similarly as if one were trephining the skull. One opens upon the anterior mediastinum, the pre-pericardial fat coming into view. The fat is scraped out with a curette and the anterior surface of the parietal pericardium is exposed. The pericardium is raised by two mouse tooth forceps and an incision made between them. From this opening into the pericardium, which is at its lowest level, just above its union with the diaphragm below, one can readily explore the pericardial cavity and then institute the treatment that is necessary, according to the conditions present. In children, the sternum is narrower and one may make incision nearer the mid-line, so that the trephine opening will not separate a rib from the sternum. The internal mammary artery lies from $\frac{1}{2}$ to 2 c.m. outside the sternum and is not involved. The sternum averages about $\frac{3}{4}$ of a c.m. in thickness in adult but varies considerably. After one has trephined, it is best in those cases where there is pus, to fill the cellular portion of cut edge with 15 per cent iodoform wax. It will also aid in stopping any excess of hemorrhage. When the anterior mediastinum is entered, one may find some enlarged mediastinal glands. I have found some as large as lima beans in cases of pneumonia. These should be excised with fat. When the pericardium is bare, one can be certain that it is the pericardium by feeling the heart beating

and its convexity will be caudal-ward, while in those cases, where the diaphragm is raised above normal position by pressure from below its convexity, will be cephal-ward. The pleura may be told on either side by the color. In those cases where there is pus, it is well to place a purse string suture. The pericardium is then incised and rubber catheter inserted so that pus can be drained through it. Pack gauze around catheter to protect anterior mediastinum and turn patient on right side for better drainage. The after-treatment will depend upon conditions found and their re-action to drainage and flushing with warm saline.

The advantages that are present in this procedure are:

1. Anatomically correct.
2. Easily approached.
3. Best possible drainage.
4. Devoid of mechanical danger—as hemorrhage and rupture of pleura.
5. Can be done under gas anaesthesia.
6. Requires but 5 to 15 minutes for its completion.
7. Readily done by a physician.
8. Advantages and simplicity such that the opening of the pericardium will become more frequent. That it will become the conservative treatment in all cases of purulent pericardium, and severe mechanical disturbances, as large serous effusions and those cases of fibrinous pericarditis not re-acting to rest and the ice-bag; the drainage lessening the myocarditis from absorption of toxine.

Discussion.

Dr. W. C. Abbott, Chicago: The great lesson that comes to me in listening to this very able presentation of this very important subject, which only presents itself almost at the postmortem table, is the necessity for us to take home with us the thought that we must guard against the occurrence of this condition.

Not only by this, but by this presentation of that masterly paper by Dr. Anthony, we are impressed, and the fact is re-emphasized, that the great mass of all these serious conditions result from infections, auto-infections—Infections coming from the patient himself, and which eventually explode on the vital organs, as in the cases of pericarditis here presented; and when they have reached that stage, practically nothing can be done for the patient. We should recognize that fact that these cases do result that way, and the intelligence we get

from them seems to be an impulse for the prevention of the condition rather than to attempt to cure it, when there is practically no treatment that will avail.

Dr. E. J. Brown, Decatur: A paper like this one, which shows such an immense amount of research should not be passed without a word of commendation. We have here a new method of operation for removing fluid from the pericardial sac. We know that very few sacs are tapped by the general practitioner, or even by the surgeon. We know that from the record of the autopsies of the immense number of cases in which the condition is not suspected during life. I think many cases of pericarditis go unrecognized. They are treated as an endocarditis, and are frequently complicated by endocarditis or pleurisy.

Dr. Bacon has given us another so-called medical operation, and he deserves great credit for the immense labor performed by him and for the splendid results that have accrued therefrom.

Dr. Bacon (closing the discussion): The last six cases I had, where the pericardial sac was entirely obliterated came to autopsy unrecognized. Occasionally these cases were diagnosed as endocarditis, and sometimes this was not even thought of. It seems to me that in a case of adherent pericardium, where the visceral and parietal layers have fused, no symptoms may be manifested. The heart may not hypertrophy in the least, although more work may be given the heart to do. It is only when the pericardium becomes adherent to some surrounding or contiguous structure, such as the posterior aspect of the sternum, that the work of the heart is increased to such an extent as to become appreciable, and it is hypertrophied. In such cases the patient comes to us with a diastolic shock; where the apex of the heart is practically fixed; when the patient is placed in different positions, when we have Boradben's sign, and the heart is hypertrophied from no other cause, then we can be sure that there is an adherent pericarditis.

In these cases, when there is some retardation to the action of the heart, we can also go in at the same line and break up the adhesions between the pericardium and the posterior aspect of the sternum and get good results. When the uterus is bound down we can go in and break up adhesions, relieving the patient. Why cannot we do the same thing in a case of adherent pericardium, release the heart from its bonds, and achieve the same result?

If you operate on a dog and open the pericardium, you can grasp the heart and hold it in the hand with practically no bad result; no gross difference in blood pressure or heart rate. In cases of drowning, we can go in and massage the heart and compress it at the rate of twenty or forty times a minute. We have been able to get the heart to beat again after the patient was under water for as long a time as twenty-three minutes, and in one instance, even thirty minutes. Pulsation did not continue for other reasons. If the heart can stand such

severe handling, why cannot we avail ourselves of the method I described without restricting the action of the heart and give the patient considerable relief?

When we enter a purulent pericardium, we must be careful with the sternum because there we come in contact with the cellular part of the bone, and unless care is exercised, we will set up an osteo-myelitis. I take a precaution against that. When I enter such a pericardium, I take paraffin or wax or some similar substance, and make a ten to fifteen per cent iodoform mass and close the cellular part of the bone entirely so that the exuding pus will not set up an infective osteitis. In fibrinous pericarditis, when we see the patient going down gradually, and the ice bag does not seem to give any relief, when drugs are futile. Why cannot we go in and open up the pericardial cavity and wash out the sac with saline solution and inject some substance that will not irritate and that will keep the layers of the pericardium from coming in direct contact with each other, as is done in acute purulent affections of the joint? We have the same membrane lining joints as lines the pericardium. Of course, the heart has been considered a treacherous organ to handle, and we know that it has been said that if the heart is touched the patient will die, but that is not true. There is no reason why this whole region around the heart, which we have been afraid to enter in the past, and which we have neglected in consequence, should not become a region where the physician may enter and do his patient much good.

If the per centage of recoveries is not larger than it has been—30 per cent—then there is no reason why such a procedure should be continued; but by this method you can do the work in five minutes, and I can see no reason why we should not get far better results than in the past. It seems to me that the method is worth, at least, a trial so that we can determine definitely its exact worth.

June 18, 1905.

I have just come across a reference in Treves Applied Anatomy to the fact that the pericardium has been drained through the sternum, so I am not original as I thought at the time of presenting the paper.

J. H. Bacon.

CHRONIC PROSTATITIS AND ITS TREATMENT

BY HELIODOR SCHILLER, CHICAGO.

The two prominent functions of the prostate gland are its secretive function and its function concerning the sexual organs; both can be impaired.

Being a gland, we would suppose that the majority of the disturbances would concern the secretive function but such is not the case.

The disturbances of the latter function, the sexual part, are by far the greater.

The amount of nerves and ganglia in the gland makes this plausible. Modern surgery gave us at least an opportunity to study a part of the physiology of this gland. The conclusions which can be made from the extirpation of the prostata and which are confirmed by previous experiments on animals are: that the removal of this gland is not necessarily followed by impotentia coeundi, about half of the men with an extirpated prostata retain at least a part of the sexual power they had before operation. Invariably the extirpation is followed by impotentia generandi.

The secretion of the prostata is necessary for the mobility and preservation of the spermatozoa, in sperma minus the prostatic secretion, the spermatozoa are found rigid, immovable and, as experiments show they die very soon. But an immovable spermatozoa never causes impregnation; therefore, such men are sterile, nevertheless their sperma may contain a normal amount of spermatozoa.

Experiments and experience show that only a very small amount of prostatic secretion is necessary to produce the mobility, and longer preservation of the spermatozoa, and even the prostatic secretion mixed with pus retains its specific power. A small part of normal prostatic tissue with a normal "vas deferrens," to conduct this secretion into the urethra is enough for the fulfillment of its function.

These two facts explain the statement made in the beginning, that the disturbances of the secretive function are by far in the minority when compared to those concerning these of the sexual function.

After extirpation of the prostata, erection and normal coition is possible, nevertheless the relation between prostata and coition is very close and pathologic changes especially chronic inflammation of the prostata are soon and surely followed by disturbances in the sexual life of the patient. More or less often

and quickly a complex of symptoms often called sexual neurasthenia appears.

The amount of nerves and ganglia, and other nerve-apparatus point out that there are sub-centra in the prostata for the normal occurrence of the coition. For instance, I have found in several cases that simple massage of the prostata is followed by an erection, which plainly shows the connection between erection and prostata. I advise in all cases of the so-called sexual neurasthenia not to omit a close examination of the prostata, in a majority of cases some disturbances will be detected.

What are the pathological changes in the prostata which interest us; what are their causes, symptoms; how can they be diagnosed; how should they be treated?

The causes of the prostatic disturbances are first of all; chronic gonorrhea, all other etiologic causes, for instance chronic congestion of the prostata produced by excessive masturbation, by artificially prolonged coition, also by processes which are followed by congestion of the bladder, prostata and lower part of the rectum as cirrhosis of the liver are to be mentioned in secondary line only.

The chronic gonorrhea is the first etiologic factor.

If we look over the different text-books, we will find the so-called neurosis of the prostata (gland) and chronic prostatitis in the same chapter; chronic prostatitis often treated only as an annex to the neurosis. I would emphasize just the contrary and would like to say that we will be able in many cases which have been diagnosed as neurosis, to find pathologic changes in the prostata or its secretion. We are only justified to speak of neurosis of the prostata when the complaints point to disturbances in the prostatic gland but when on examination the prostata is found to be normal and when its secretion is free from pathologic changes and probably only increased in amount—prostatorrhea.

The causes of neurosis of the prostata are excessive masturbation, excessive intercourse, interrupted intercourse, or artificially prolonged intercourse in short conditions which produce chronic hypermia of the gland. In

cases of chronic prostatitis mostly chronic gonorrhea can be taken as the etiology cause. Chronic urethritis produced by other microbes than gonococci can also be accompanied by chronic prostatitis.

I remember a case where I repeatedly upon microscopical examination could find coli bacilli in the urine and the prostatic secretion. I am convinced that these germs were in this special case the cause of the disease. Pathologic anatomically has been found the picture of a desquamative catarrh; in the beginning next of the vasa deferentia only, later on in the glandular tissue itself, we will find parenchymatous or fatty degeneration of the glandular epithelium, round cell infiltration along the glandular tissue, circumscribed or diffused; in the latest stages scar tissue, fibrous tissue in the place of the infiltrations. With these disturbances, changes in the secretion go along, a great amount of leucocytosis, cylindrical and cubic cells partly degenerated are found mixed in with the normal contents of the secretion, red-blood cells or whole parts of a glandular tube will be found. In order to obtain secretion for a microscopical examination I wash out the urethra with distilled water and massage the prostata in the later described way. Several drops of prostatic secretion will then be found on the end of the urethra for an examination and it will be easy to detect the pathologic admixtures. In cases of more recent nature gonococci may be found.

The complaints of the patient are of different kinds. There are first the complaints concerning the sexual function. Some patients state their libido for intercourse being very much reduced, in other cases the libido is not altered but the potency is diminished, the erections are weak or of short duration, others complain that coition don't bring satisfaction, the orgasm is greatly diminished, ejaculation is not accompanied by the amount of excitement as before. Others complain of precipitate ejaculations. This is a most disagreeable condition. Ejaculation and disappearance of the erection occurring "ante portas" or a few seconds after entering the vagina. Others have pain the moment the

semen is thrown into the urethra. Frequent and copious pollutions, nocturnal, sometimes two or three times during the night and worse than this, prostaticorrhea either perpetual or only during defecation or urinating are frequent complaints. Especially patients suffering from prostaticorrhea and pollutions complain of weakness, lack of energy, headache, pain along the spine, in short neurasthenic complaints. It is very hard to understand why, for instance the loss of a few drops only of prostatic secretion during defecation or urinating should be able to produce a weak condition which in some cases unables the patient to attend to his work for the next two or three hours. It is in my opinion only the physical depression which arouses this condition and the knowledge of the patient that there is something wrong with his sexual function and this physical depression is the cause of the neurasthenia in patients with prostatic disturbances.

Therefore in each case of neurasthenia with pronounced sexual disturbances, the prostata should be examined very carefully and we will be able in many cases by curing the prostatic disease to cure the neurasthenia which is only a secondary condition. It is known that all the diseases of the sexual organs have a very depressing influence on the mind and character of the patient, the prostata ranges in the first line.

Complaints of a more local nature are pains in the region of the prostata, dull very seldom acute, the sensation of heat and fullness in the peritoneum, an itching and prickling along the urethra as if a hot drop of urine had run down through the urethra. Pain during urination and defecation, pain in the back and neuralgic pains in the testicles, ischiadic nerves, inguinal region and sometimes whole abdomen. Some patients complain of an increased desire to urinate but on the contrary to cases of hypertrophy of the prostata, this increased urinating is only during the day while during the night this symptom does not trouble them at all. Very characteristic is one symptom, the complaint of driffling of urine—a few drops only—right after urinating. We will find this

symptom in cases with an enlarged, edematous prostata. While it is a fact that the former idea is wrong, that the prostata is in close relation to the act of retention of the urine and works as a sphincter, inflammation of the gland increases the desire to urinate because the pars prostatica of the urethra may be involved in the inflammation. To these complaints we have to add all the symptoms of neurasthenia, which very often accompanies or better said follows prostatitis. Very often hypochondriac ideas mix in and make the picture a very complicated one, hiding the real focus.

Diagnosis. For an exact diagnosis, the digital examination per rectum and the microscopic examination of the prostatic secretion is necessary. I advise the conjoined or bimanual examination of the prostata. In many cases this method will give more information concerning the condition of the gland than the usual method employed until recently. In knee-elbow, lateral or dorsal position, I prefer the first, the index finger of the left or right hand is inserted in the rectum, while the outer side of the index finger of the other hand is placed just above the symphysis. Just as the conjoined or bimanual examination is sometimes unsatisfactory in women, we also find cases in men where we will not derive much benefit but in a majority of men we will find it very satisfactory, the size of the gland, its consistency, circumscribed abscesses or indurations and even the medium lobe can be palpated. After the finger is inserted we find out the size of the gland, the gland may be of normal size but its secretion pathologic, or we will find the gland enlarged sometimes projecting into the rectum, its consistency may be soft, odematous in toto or one lobe may be normal the other swollen; the whole gland may be very tender, or only parts of it. Some cases will complain upon the slightest pressure on the gland of a desire to urinate or to move the bowels much more so than in normal cases. The examination with the necessary pressure on the gland and a slight massage will give us at the same time a chance to examine the secretion of the gland, we will find in some cases as in a

normal case one-third drop of secretion on the end of the urethra, in other cases more than 15 drops of a pathologic secretion. The microscopic examination of this is very important; the different findings are described under the pathology of the gland. The examination of the urine will show in the cases of chronic gonorrhea as etiologic factor, the typical changes of this disease especially the three glasses test on the other hand, I must say that I have often found the third glass entirely clear in spite of the presence of a typical chronic prostatitis. The examination with the endo—or cystoscope—will help some in making the diagnosis but is not essential.

The examination with sound or bougies is not necessary.

Treatment. The treatment which gave in my cases the best results was: First massage of the gland. In all cases when it is possible—and the patient can be easily trained for it—I apply bimanual massage, which is far superior to the methods previously practiced. With this method, the gland can be massaged in toto, the amount of pressure can be applied as desired, single parts of the gland can be excluded while a stronger massage can be applied to other parts. The conjoined massage of the prostata, which I do not find mentioned in the whole literature, is done in a similar manner to the conjoined examination, it is advantageous as the hand on the abdomen can do the massaging while the finger in the rectum serves only as a support and thus avoids lesions of the mucosa of the rectum. A large fat abdomen and a very rigid abdominal wall is an impediment to success. After the massage I use Janet's irrigation of the urethra, first to remove the secretion of the gland which was pressed into the urethra, then in order to cure the gonorrhoeic residue still present in the urethra: I use first a solution of hypermanganate of potassium, later increasing doses of silver nitrate solution are added to the hypermanganate solution. These irrigations have many advantages over deep instillations and give good results in nearly all cases. I have not observed any bad results from them. Only in cases with pronounced sexual weak-

ness, I sometimes use deep instillations with good results. We must learn concerning the result of our procedure, which part suggestion plays and which part our therapeutic action. Most of the patients with chronic prostatitis are neurasthenics and the suggestive theory will have a broad field. But massage and irrigation have not a great suggestive influence because the latter has been applied by the patient himself often for years even in another form. The result after correctly applied massage and irrigation will have the one dividing criterion before the result attained by suggestive treatment, that it is permanent.

It does not come quickly, it takes time before massage and irrigation work, but the result is mostly permanent. After massage is applied for several weeks followed by Janet's irrigations the swelling and edema of the gland prostaticorrhea, pollutions disappear, the secretion becomes normal, the sexual power comes back, the mind of the patient is freed from one idea and the whole constitution improves.

In cases where this treatment does not bring the desired results, rectal suppositories with ichthyol, pot. iodine, rectal cooler and the psychrophor of *Winternitz*, electricity—one electrode in the rectum—can be used sometimes with good results. In all cases we will regulate the bowels, advise a nourishing bland diet, as the best tonic, out-door life and exercise. A trip to the country or change of climate is advisable.

Intercourse in moderate form can be allowed during the time of the treatment, but not on days when massage and irrigation have been applied. Normal intercourse works depletoric concerning the prostata.

CEREBRAL HEREDITARY SYPHILIS.*

BY WILLIAM J. BUTLER, M. D., CHICAGO.

Although little is mentioned by many of the earlier pediatricians as to the occurrence of cerebral manifestations in hereditary

*Read at the 55th Annual Meeting Rock Island, May 17, 1905.

syphilis, it has long since been generally recognized that while it is less prone to attack the nervous system, it is capable of causing any form of nervous lesion that may result from acquired syphilis.

In an effort to determine its comparative frequency, Rumpf¹ found that among 70 children born of syphilitic parents, 9, or 13 per cent developed affections of the nervous system, some dying in convulsions in first months, and one at three years of age from meningitis.

Some observers, notably Rumpf and Fischel², assert that many of these cases may not present the skin changes usually observed in the first few months, the specific poison remaining quiescent for a considerable time before cerebral symptoms appear.

Virchow believed that syphilis could localize itself in some undemonstrable diseased foci for ten years or longer, and then under favorable circumstances manifest itself.

Baumes³, in 1840, expressed himself as follows: "If syphilis exhibits its action on the nervous system, the children, without showing any external evidence of constitutional syphilis, may die at an early age in convulsions or suffer for a long time with disturbances of the nervous system." He cited the following cases, illustrating this point: The father was syphilitic. The first five children, without any external syphilitic symptom, all died in convulsions between second and seventh months. The sixth child developed at four weeks a pustular eruption, which was diagnosed syphilitic. In spite of mercurial treatment, child died a month later of atrophy. Thereafter the father was treated by inunctions. The seventh child, although presenting no specific symptoms, suffered from epilepsy from the earliest months.

Hutchinson⁴ stated that, "For practical purposes we must admit that a taint of inherited syphilis may remain latent until at, or even considerably after, the age of puberty it may manifest itself by a severe attack of interstitial keratitis, by deafness, nodes, specific lupus, or ulceration of the palate."

It seems probable, however, that in the absence of external evidence of hereditary

syphilis, or syphilitic parental history, the diagnosis of specific cerebral disease would be attended at times with considerable difficulty, although Fournier⁵ states that the cerebral manifestations that occur in hereditary syphilis are the same as those observed in the acquired. In the initial stage of the cerebral affection, the polymorphic character of the symptoms make its diagnosis quite clear, but at later periods it might present a clinical picture not dissimilar to cerebral lesions due to other causes.

While the early skin lesions may not have occurred, or may have been overlooked, there are frequently present one or more phenomena characteristic of hereditary syphilis, and rendering the association of the nervous lesion with the hereditary taint probable. To Hutchinson are we especially indebted for work in this direction. His studies of changes in the sense organs and teeth in hereditary syphilis gave a special impulse to the study of nervous lesions in hereditary syphilis. He first pointed out the association of interstitial keratitis to congenital specific disease, and the characteristic changes in the upper permanent central incisors.

Hutchinson, in discussing the value of past choroiditis as proof of inherited syphilis, said: "Amongst the symptoms to which we finally make appeal in cases of difficulty in the establishment of a diagnosis of inherited taint in children and young adults is the evidence of past choroiditis." If in a case, in which other facts are present which suggest suspicion, there is any evidence of old choroiditis, it is, I believe, often held to be almost conclusive.

Concerning the pathological changes in these cases, Barlow⁶ and Bury state that the most common brain lesion in syphilis in children is a diffuse affection of the cortex in which certain of the convolutions become hardened and shrunk and their cells atrophied in consequence of an overgrowth of neuroglia; that this condition may be secondary to a chronic meningitis, itself started by a syphilitic periostitis or occurring independently or may occur as result of a specific endoarteritis or gradually develop

apart from either disease of the vessels or membranes.

Hydrocephalus is also sometimes attributed to syphilis.

Virchow early described a case of congenital hydrocephalus in hereditary syphilis.

Barensprung⁷ and von Sternberg⁸, reported cases of hydrocephalus in hereditary syphilis. Heubner⁹ found, in a case that presented the appearance of hydrocephalus, a pachymeningitis hemorrhagica.

Waldeyer¹⁰ and Kobner reported a case of gummatous periostitis with exudative formations simulating pachymeningitis.

Ruffer¹¹ found hereditary syphilis mentioned in 20 per cent of the reported cases of chronic hydrocephalus including his own.

Chiari¹² related the case of a seven months' old child, born of a syphilitic mother. It developed ocular paralysis, hemiplegia and epilepsy. Post showed, besides thickening of the meninges and diffuse small areas of softening in brain, the basilar and vertebral arteries were thickened and partially thrombosed. The carotids were also thickened.

Fournier reported a case of a girl of ten years, of syphilitic parents, presenting typical cerebral symptoms before death. Post showed that in some spots the cranial bones were atrophied; in others hypertrophied; the meninges thickened, cloudy and adherent to each other, and to the cortex, which showed a high grade of softening. There were also softened areas in the white substance of the brain.

Money¹³ related the post findings of a three and a half year old boy who suffered from convulsions and became idiotic. There was osteosclerosis of cranium, thickening of dura and also of the pia mater, atrophy of the convolutions with great increase in consistency. Endarteritis specifica and partial thrombosis of the basilar arteries and middle cerebral; sclerosis of pons and cord throughout.

Nettleship¹⁴ described a case of cerebral gumma in a girl of ten years, as did also Dows¹⁵.

Clinical Symptoms. Cerebral syphilis in children often begins with convulsions of a

severe type, seldom petit mal. Sometimes they recur uncomplicated, more frequently combined with headache, which is severe, with nightly exacerbations, dizziness, ringing in ears, change in disposition and impaired intelligence. Later on the epilepsy may disappear; in others it persists for years. Paralysis frequently develops in the form of hemiplegias. They often end as paralytic idiots. In the earlier stages paralysis of cranial nerves frequently occurs, especially the abducens and oculo-motorius.

In addition to the motor paralysis and mental deterioration which characterize the later stages, sensory disturbances also occur—amblyopia, deafness, aphasia, etc.

Judson Bury¹⁶ states that congenital deficiency of mind from inherited syphilis is rarer than mental failure coming on in childhood. He had seen syphilitic children whose mental faculties had never perfectly developed. Such children may subsequently be seized with eclampsia or other symptoms of brain disease. In the vast majority of cases mental failure comes on in childhood at an age varying from five to ten years. They belong to the class of simple intellectual failure. They are passive, apathetic, deprived of memory, and do not understand what is said to them.

Forty of ninety cases of hereditary syphilitic brain disease showed some failure of the mental function.

The following cases forming the basis of this report present many symptoms and signs which could not well be accounted for except by assuming syphilis as the etiological factor:

Case I. Helen W., aged 23 months, was born after a five hour labor by version. Mother died shortly after birth, evidently from hemorrhage. She is youngest of eleven children, one of whom was born dead; another is said to have died a few minutes after birth. A third child died at three and one-half years of meningitis.

At about the third month it was noticed she did not use the right arm or leg much, and later did not seem to see well. She was unusually sensitive to sounds; any sudden

loud noise causing her to cry out. This condition has not varied any up to this time.

She began to sit up at a year old, but has never stood. She speaks a few words.

Examination gave the following: Patient is poorly nourished. Head, measuring $17\frac{1}{4}$ inches, presents prominent parietal and frontal bossae. Fontanelle open. Ears negative. Eyes show slow horizontal nystagmus on effort at accommodation.

The left pupil is irregular in outline, the result of adhesions from an old iritis. The right pupil seems normal in outline and location. Both react promptly to light.

There seems to be considerable impairment in sight.

Face. There are two linear scars on mucosa of lip. Face shows slight deviation on right side.

Teeth. Upper incisors have decayed and dropped off at margin of gum.

Neck and spine negative.

Lungs and heart normal.

Abdomen negative.

Extremities. Right arm is held slightly flexed and close to side. Both right arm and leg are parietic and slightly spastic. No atrophies. Patellar reflexes present on both sides.

No gross disturbances of sensation can be determined.

Ophthalmoscopic examination of eyes made by Dr. Hotz shows an atrophic choroiditis of both eyes and optic neuritis most marked on the left side.

Although convulsions are frequent at onset or in course of cerebral hereditary syphilis, none occurred in above case to date. No mention is made of epilepsy in a case similar to above, reported by Haddon¹⁷, and one by Abercrombie. Haddon's case was a boy of ten years; hemiplegia had occurred when he was one year and nine months old. He had interstitial keratitis and extensive choroidal atrophy.

Abercrombie¹⁸, in a clinical lecture on hemiplegia in children, stated that in four of his 50 cases of hemiplegia in children there was evidence of congenital syphilis, and there was good reason to attribute the paraly-

sis to this cause. In three the paralysis dated from quite early infancy, having, as usual, been ushered in by fits. In the fourth case there was conclusive evidence of syphilis. At the age of six years, while walking in some fields, she had suddenly fallen down, and was then found to be paralyzed on the right side, and that side had been weak ever since. On post-mortem examination a small old adherent thrombus was found in the middle of the longitudinal sinus. There was atrophy of the left hemisphere, the cortex and central parts both sharing in the atrophy. The meninges were thickened and adherent over left side, and convolutions (chiefly the ascending frontal and frontal convolutions) were sclerosed. The middle cerebral arteries were diseased.

Case II. Helen N., aged 6 years, was admitted to Presbyterian hospital, January 1, 1905.

Family History. Mother, who had a deformed spine and feet, died two years ago of pneumonia. Father is living and an alcoholic. One older sister living and well. Early history of patient not obtainable.

For some time previous to present illness she was restless during sleep and cried out a great deal. December 31st last she was taken suddenly with a chill, followed by fever, became delirious and passed into a semi-comatose state inside of four or five hours. Entered hospital following day.

Status Praesens. Patient cannot be roused. Breathing slightly accelerated, but neither stertorous nor labored. She is well nourished, and of average size for her age. Lies on left side with head markedly retracted and knees flexed. No tremor or convulsive movements noticeable.

A diffuse maculo-papular eruption, purplish in color, not disappearing on pressure, is distributed over trunk. No evidence of injury on head. Flexion of latter is resisted.

Ears, negative.

Eyes. Apparently a slight strabismus. Conjunctivae are injected. Pupils react to light.

Face is pale; no paresis of either facial.

No herpes.

Neck. Chains of fine, pea-sized cervical glands palpable on both sides.

Thorax. Respirations 24 per minute. Over both lungs normal resonance and respiratory sounds. No pleural adhesions.

Heart normal, but rapid—140 per minute.

Abdomen full and apparently sensitive to palpation.

Liver and spleen not enlarged.

No hyperesthesia, spasticity or paresis of extremities.

Kornig's sign present.

Patellar reflexes slightly increased.

Temperature, 104.8°.

Examination of Urine. Acid; 1030; urates abundant; no abnormal constituents.

Leucocyte count, 25,000. Counts made three and four weeks later gave 13,400 and 13,500, respectively.

January 3d. Spinal puncture was made. Four c.c. of clear fluid obtained, fluid dropping slowly from canula. Cultures from this fluid remained sterile. Smears did not show any bacteria.

In the first few days she vomited frequently after nourishment, and was constipated.

General condition continued the same, except patient could be more easily aroused, during which time she was very irritable and complained of headache. The eruption noticed on body on entrance had extended to face and extremities. January 6th, paresis of left facial was observed, involving apparently all three branches. The eye could be closed but not tightly. About this time she complained of pain in left eye, which had become markedly injected. The cornea appeared turbid and there was evidence of iritis.

This suggested at once a possible etiology for the cerebral symptoms present, that is, on the supposition that the eye changes were specific. The case was referred to Dr. Hotz for examination of eyes. He found an interstitial keratitis and iritis, and stated that the most frequent cause for same was syphilis. Both fundi were normal. About this time the rash had in great part disappeared, and the temperature curve, which was running quite high, now sought a lower level.

The child was immediately given anti-specific treatment (mercurial inunctions and potassium iodide.) She began to show some improvement in four or five days, in that there seemed less retraction of head and less resistance to flexion. She was clearer mentally, and the eye looked better.

The temporary improvement in some of the symptoms was interrupted, January 15th, when the temperature again rose and assumed a markedly intermittent type, showing a difference of six and seven degrees in twenty-four hours. There were no chills. A Widal, made at this time, proved negative. The patient remained in a somnolent state the greater part of the time; but would complain greatly at night of headache, which she would often localize in the occiput.

Examination on January 28th, gave the following: Flexion of head more restricted than two weeks ago. Strabismus has disappeared. Left eye has greatly improved. Left facial paresis less marked. Cervical and dorsal spine somewhat tender. Abdomen tender and tense. Liver and spleen not enlarged. Constipation.

She continued gradually to improve. Temperature dropped to normal. The left eye, the seat of keratitis and iritis, cleared up entirely. Rigidity of neck disappeared. Facial paresis was slight.

Patient was discharged March 7th. There still persisted a slight paresis of left facial and an internal ophthalmoplegia of left eye, which exists at present.

Fournier²³ relates Barthelemey's case of a child, three and one-half years old, that was suddenly seized with anorexia, vomiting, photophobia, constipation, restlessness and insomnia, convulsions and severe headache; loss of consciousness, contractures, and opisthotonos. In consultation at end of four weeks the diagnosis of tubercular meningitis was made. Potassium iodide was given, and in a few days marked improvement was noted. Patient recovered in a month entirely. After ten years the child developed an affection of the right eye which Barthelemey and Parinaud diagnosed as a hereditary syphilitic Hutchinson's keratitis. There were

defective intelligence, deafness in one ear, Hutchinson's teeth, irregular position of teeth, early decay of same, and a syphilide. The mother acknowledged specific infection.

Wood¹⁹ reported a case of chronic basilar meningitis, which he diagnosed as tubercular but which recovered under prolonged use of iodides. He concluded that although no signs of inherited syphilis were perceptible, the specific nature of the inflammation, in view of the results, could scarcely be doubted.

Sachs²⁰, on the other hand, states specific disease which is a very frequent cause of acute and chronic meningitis in the adult does not play an important role in the meningitis of early life. He had not seen a single instance of acquired or hereditary syphilis in a child in which the diagnosis of a specific meningitis seemed to be the most probable one.

Holt²¹ reports two cases of chronic basilar meningitis which he says were certainly syphilitic. One occurred in a child who had other manifestations of syphilis, and was cured by anti-specific treatment. In the other case it was confirmed by a post-mortem.

Referring again to my first case, I believe that there can be no doubt that the cerebral palsy in this instance is associated with specific cerebral disease, substantiated by the presence of an atrophic choroiditis.

I would also call attention to the early decay of the teeth in this case.

In regard to Case No. 2, the semi-comatose and later somnolent condition of the patient, the marked and persistent opisthotonos and the severe headache permitted the diagnosis of meningitis, and a meningitis involving the base as strongly supported by the paresis of external rectus of left eye. The occurrence of an iritis and interstitial keratitis which cleared up under antiseptic treatment, as did likewise the cerebral symptoms and the negative spinal fluid argued strongly, as did likewise the multiplicity of symptoms, for a common etiological factor, namely, syphilis. The cerebral affection seemed to be more extensive than meningeal, as indicated by the peripheral paralysis of the left facial and the resulting internal ophthalmo-

plegia, suggesting nuclear changes. In Chiari's case the facial nerve was diseased. Nettleship reported a case of gummata of the cranial nerves.

This case, however, ran a high temperature, which at times was markedly intermittent, simulating a septic curve or a quotidian. However, at no time was there any evidence of endocarditis, as one might expect, in a sepsis, nor did any focus of pus present. The blood was negative as to plasmodia, and quinine was ineffective. There was, however, considerable tenderness of abdomen; tympany, and constipation, with fecal impactions reported.

It is not improbable that we had a coincident bowel infection which might explain the temperature, although it is not necessary to seek this for the cause of temperature, as temperatures are not altogether uncommon in cerebral disease.

Prognosis in cerebral hereditary syphilis will depend in great part on the character and extent of the pathological change, its early recognition and the energy with which antiseptic treatment is employed. In gummatous meningitis and endoarteritis they can, as in the acquired form, recover apparently entirely, with restoration of function, if the nerve tissue has not been damaged beyond this point, when early diagnosed and treated. However, where a case comes under observation later, and cerebral softening has occurred, with its accompanying disturbance of function, but little can be expected of treatment.

Even in cases where the disease has apparently subsided and function has been restored, extensive changes may be found post-mortem.

The convulsions in hereditary syphilis may be controlled by antispasmodic treatment.

Mental disturbance, although at times arrested and periods of quiescence supervene, shows, as a rule, a progressive tendency toward dementia.

Treatment is only likely to be useful during active syphilitic changes, and not in a case where a brain has been damaged by

syphilitic disease which was active months before.

As a prophylactic measure against subsequent serious nervous and visceral lesions, in cases of hereditary syphilis, they should be treated vigorously with the first appearance of skin symptoms by mercurial inunctions and continued after all evidence of activity has disappeared. During this latter period grey powder may be substituted for inunctions.

Where nervous lesions have developed, in addition to inunctions, potassium iodide should be given. The latter, however, is sometimes not well borne by children, in which event it may be alternated with iodide of iron, and, as previously noted, the treatment continued after disappearance of all symptoms.

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Discussion.

Dr. Hugh T. Patrick, Chicago: I was very much interested in Dr. Butler's paper, because just a few days ago a post mortem examination was made on a child that I had treated for cerebral syphilis and that conformed very closely, in course, to some of the cases mentioned.

The boy was seven years old and except some slight symptoms of congenital syphilis seemed to be a healthy child until he was six years of age when he developed epilepsy, accompanied by very grave mental disturbances. The physical examination was exceedingly unsatisfactory. The child became a decided imbecile, and showed restlessness, lack of attention and objectiveness.

The father gave a history of syphilis contracted several years before the child was born, and on the strength of that and the symptoms the child was put on active specific treatment, but without any result. There developed vomiting, high fever, and then death. The post mortem examination disclosed diffusely thickened, rather hard meninges, which I took to be syphilitic, although I have not yet seen the specimens. That was one of the clinical results of inherited syphilis.

Quite recently one of my assistants, Dr. Grinker, has reported an interesting family of which the father had the disease. The wife developed tabes; the first son developed precocious general paralysis, of which he died; the next son developed precocious tabes, and the next child, a girl, had two slight attacks and many severe attacks of thrombic apoplexy. The post mortem disclosed a porpencephaly from softening, confirming the diagnosis of syphilis.

I now have under treatment a lad who became dull mentally and wobbly on his feet, with increased reflexes and typical keratitis, but he has practically recovered the use of his mind and extremities on specific treatment. These are only types, but three points I wish to make are: First, the lack of the ordinary symptoms of cerebral syphilis as seen in the adult. Children do not have nearly so much headache, on which we depend so much. They may not have any headache at all or so little that it amounts to nothing; and they may not have the vomiting we see so frequently in grown people. Second, in these children the symptoms in different cases may be multiform and vary, ranging from simple mental failure to sudden hemiplegia and convulsions, which cannot be distinguished from ordinary epilepsy; Jacksonian fits, so-called; paralysis of ocular muscles; crossed paralyzes of peculiar forms. But particularly in cases which show a simple mental failure, and occurring in early infancy, it is exceedingly difficult to say whether that child is a congenital idiot, or whether it is the result of an injury received during parturition, or whether it is a specific case. The majority of children I have seen have not shown the characteristic marks or lesions in the visible parts, skin, etc.

The third point is that children who fail mentally or show signs referable to the nervous system, which cannot be traced to parturition injuries, are to have the benefit of every active specific treatment, even when they are born of most respectable parents.

Dr. J. H. Hess, Chicago: I would like to relate a family history in connection with Dr. Campbell's paper. I saw two children recently whose mother was a German woman of excellent physique, and whose father was in good health, with absolutely no specific history on the part of either parent. The oldest child, about three years of age, presented at the time I saw it, typical signs of hereditary syphilis. The same was true of the little baby, which died about a week later. The older child had keratitis, and the joints were enlarged. It had infiltration and ulcerations of the mucous membranes,

and there was a decidedly late and irregular eruption of the teeth.

Both these children had been on antirachitic treatment, but without any result whatever. The younger child, as I said, died, but the older child was put on antisyphilitic treatment and is improving, although rather slowly.

The interesting point is that the father gives a family history which points, apparently, to syphilis. He was the youngest of eight children, seven of whom died shortly after birth. That is interesting because of the fact that the disease apparently jumped one generation, not having left any signs whatever in the father of these two children.

Dr. Butler, closing the discussion: The results of treatment depend, of course, on the stage in which these cases are pathologically. In old cases, with much softening, but little could be expected, but when in the active stages, these cases improve remarkably under treatment, as in the case mentioned by Dr. Patrick, and also in the second case which I mentioned, and which has apparently recovered entirely; but it is a notable thing that where there is mental failure present in these cases, while it may improve temporarily under treatment, the tendency is for it to become progressive.

AIR EXAMINATIONS—IMPORTANCE AND RESULTS.*

BY ADOLPH GEHRMAN, M. D., CHICAGO.

Conditions that exist in the air. There is general acceptance of the relation of bacteria occurring in the air to infections but our views regarding its importance have gradually changed in detail. There is a recognition that special requirements must exist before bacteria of the air may become important agencies in the cause of infections. The earlier belief that there was great danger has been replaced by one of minimal danger. Perhaps too far in the opposite direction. The real conditions as existing in dry dust, the most obvious evidence of organized presence, indicate a rapid killing of most of the pathogenic species during dessication. This is more particularly true of the non-spore bearing varieties. More work has been done with the tubercle bacillus than with any other organism as regards its viability in dried dust. Buchner reports finding tuberculosis virulent in dried dust after one year. Klein also had positive results. On the other hand Heron found infection in only 2.7 per cent among

74 guinea-pig inoculations with hospital dust and Kirchner only one positive result out of 16 inoculations. Although the relative time of viability after drying is short still there is always present the possibility that this period may be just long enough to spread infection. At the present time there is a fairly uniform opinion among investigators in a recognition of the danger that may be occasioned by moist particles from infected persons. Hügge was the foremost in advocating this view and as it were changed front on the general proposition of infection through the air. The spray of droplets formed in sneezing, coughing or even speaking may contain virulent bacteria which pass with the droplets, along the air currents about the person. Königer experimented with cultures, using exact methods, and demonstrated the direction and extent of spread of the test bacteria about the spray from which it was being thrown. Where sunlight is present it acts as a detrimental influence upon bacteria so disseminated. This has been shown by Hutchinson.

Practically the conditions that exist in the air that bear on this entire question are:

1st. The immediate dangers of spread of bacteria about the infected individual while he is a patient. This is controlled by the care of the case and as has been shown by Hill, those cases that are managed under the strict principles of modern methods, scarcely at all infect their surroundings.

2d. The congregation of numbers of persons in more or less close quarters. Here freshly sprayed mucus containing pathogenic bacteria or not may pass directly from one mouth or nose to another. What the group of people are doing also makes a difference as regards dissemination. Much laughing, talking, etc., greatly increases this possibility. A vaudeville performance is more dangerous to its audience than a church service.

3d. The dust generated by dry cleaning fills the air with bacteria. If it has just dried it must be considered more infectious than if old.

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

Air tests.

The laboratory examination of air is only partly successful. The direct determination of pathogenic bacteria is especially uncertain. This is due to the rapid and wide variations that so readily take place. Some of the methods are of necessity complicated and take more time than can be allowed to make them of immediate value. A limited application results and this may be general except with the exception as relates to the group on condition two above mentioned.

The principle of air examinations are matters of text-book information. What is to be urged on this point is that health officers and others do not make use of the tests at hand. There are relatively few tests of air being made; and when one is made it is a matter of wonder and astonishment. Every theater, hall, car, school or place of public gathering should be tested. CO_2 is not a dangerous constituent but it is the index of pollution as well as the index of ventilation efficiency. We should no more think of breathing the polluted air of a crowded room than we would of washing in the dirty water used by our neighbor. Two requirements are necessary; a fresh supply and rapid removal of the vitiated air.

As we cannot readily apply tests for specific bacteria we must devote our attention to carbon dioxide especially as it gives evidence of danger from unsatisfactory ventilation from any cause.

It is a matter of ordinary observation that disagreeable symptoms are occasioned by breathing a vitiated atmosphere and yet we cannot exactly say what is the specific cause of the headache, sleepiness, etc., that results. Flügge attempts to show that it is due to the temperature of such a room alone and not to changes in the air.

D'Arsonval showed that the condemned vapor of a vitiated atmosphere is toxic for animals. On the other hand Sivieroto could not obtain evidence of poisonous effect by the collected moisture from the breath of persons in health as well as in fever.

Arloing showed that sweat and clothing worn for some time would give an extract

with water that was toxic for animals. Such experiments are not conducted readily enough to allow of their practical use.

If we take the conditions in air as we find time we have a peculiar state of affairs. Here may be a single person highly dangerous to his neighbors because of coughing and sneezing. One such person in a meeting or on a train may cause wide dissemination of bacteria if he is suffering from bronchitis, influenza, tuberculosis; and yet such infective possibility may occur in the most amply ventilated room because the moist particles sprayed into the air may at once be carried into the mouths of persons present and again by settling or ventilation they may be as quickly removed.

In view of these results of experiments and the opinions expressed it may be argued that examination of the air has no particular value. What I desire to express is that the rational place for air tests is not in connection with individual cases or ordinary rooms but that it is a public necessity where people congregate. The air of every public meeting place should be tested at regular intervals so that the ventilating arrangements may be kept in order and effectually operated. It is impossible to protect the individual except as in so far as we can control the infected person but we can safeguard the public to a considerable degree.

We should agree with Pettenkofer, Toder, Harrington and other observers that the more CO_2 that is present the more organic matter we may infer. It is like the colon bacillus in water; we are led to infer typhoid possibility from the more persistent and numerical increase of colon bacilli present. When a test shows over 15 parts per 10,000 of CO_2 present there commences to be an excess of all excrementitious matters and when it rises over to 20 parts per 10,000 or over a dangerous condition is indicated. The proper management of ventilation can only be controlled by measuring the supplied pure air and by tests of quality. The two should be considered together and as a hall or theater remain practically the same a sufficiently ac-

curate mean will be obtained. The efficiency of moist cleansing methods can be shown by exposure of blank petri dishes and counting the resulting colonies.

By making and using the results of these tests more generally a great improvement in the air conditions in meeting places will be possible and a great educational factor will be put in operation.

THE FEVER OF TERTIARY LIVER SYPHILIS.*

BY JOSEPH L. MILLER, M. D., CHICAGO.

It is well known that secondary syphilis may be associated with fever independent of a pustular eruption. The old medical writers also refer to the fever of tertiary syphilis. Then for a period of years little mention was made of it until Baumler in 1872 again called our attention to this phenomena. He reported seven cases, chiefly joint affections where the patient had a hectic type of fever of considerable duration that disappeared under treatment. Lung syphilis is often associated with an intermittent fever thus leading to a probable diagnosis of tuberculosis.

Meningeal lues is often febrile. The type of fever in any of these affections may be continuous, remittent or intermittent. Heischberg and Raichline in 1895 described a case of liver syphilis with fever of a typhoid type—the evening temperature reaching 103° F. Under specific treatment the temperature became normal within 20 days. Gerhardt reports several cases with evening rise and night sweats. He mentions three cases of this type that were sent to a consumptive hospital, the diagnosis resting chiefly upon the type of fever. They rapidly recovered under mercury.

G. Klemperer reports three cases with fever. One of these had daily chills, fever and sweats for two and a half months, icterus, spleen palpable, liver two fingers below the arch and slightly tender. After fourteen injections of mercury the temperature remained normal. He reports a second case with a septic temperature, liver slightly

enlarged and tender, where the diagnosis of abscess was made, but repeated punctures failing to show pus, the diagnosis was changed to cholecystitis. An exploratory laparotomy showed a hepar lobatum. Under mercury the temperature gradually disappeared. Bristow mentions a boy 18 years of age with epigastric tumor that had been present for two months. The temperature was normal in the morning, reaching 101° to 103° F. in the evening with frequent chills or slight rigors. The patient was kept in the hospital three months without improvement when evidence was obtained of congenital lues. Iodides and mercury were used and within five days the temperature was normal and continued so until the patient left the hospital two months later. The tumor meanwhile had entirely disappeared. F. Klemperer reports two cases one of whom had been treated for malaria for two years. During this time there were remissions of fever of several weeks duration. Both of his patients were free from icterus and had moderate enlargement of the spleen and liver, the latter slightly tender. Riedel under the title of syphilitic gall bladder trouble with fever describes ten cases that he has personally observed. These patients had attacks of pain resembling biliary colic, with chills, fever and sweats. Seven were icteric. One patient had several attacks of this nature each year for a period of fifteen years. Several of his cases had a mass in the gall bladder region. The liver was slightly enlarged and tender in all. A diagnosis of gall stones was made in a majority of these cases but the laparotomy showed either interstitial or gummatous hepatitis and marked perihepatitis, which in many cases involved the gall bladder and ducts leading to partial obstruction of the latter. In some cases the suspected gall bladder tumor proved to be such, in others an artificial lobe of the liver due to the hepatitis and in still others a gumma. In all of his cases specific treatment reduced the size of the liver and stopped the attacks of pain and fever. It might be mentioned that where adhesions were apparently the

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

cause of the obstruction they were severed. The above reported cases are only a few of those that have appeared in the literature in recent years.

The writer has seen six cases of liver syphilis with fever. One of these in Cook County Hospital, the others in Dr. Frank Billings' office practice and he has kindly allowed me to report them.

The patient seen at Cook County Hospital gave a history of previous syphilis. For six months he had been complaining of attacks of pain resembling biliary colic, although not of great intensity. There were no distinct chills but history of fever and sweats. The liver was large and tender, a mass readily palpable in the gall bladder region. There was marked icterus, the spleen palpable. The case was looked upon as common duct obstruction with cholecystitis. The patient stated, however, that several months previous he had entered a hospital complaining of the same symptoms and had been cured by medicine. Following his departure from this hospital he had enjoyed good health for a few weeks, discontinued his medicine, a relapse then occurring. The patient delayed entering a hospital until extremely weak and although specific treatment was instituted, he died in a few days. No autopsy was obtained. The patient's record in the other hospital was examined and his statements verified. The record showed a rather rapid disappearance of the pain, fever and icterus following the use of iodides. Urine analysis just before leaving the hospital showed an absence of bile. Although no autopsy was held I believe there was little doubt that this was a case of hepatic syphilis.

Case II. Mr. J., 32 years of age. Syphilis denied. About six months ago noticed some "indigestion" characterized by gnawing epigastric pain after meals and some eructations. For the past eight weeks has had night sweats, feels tired, has lost 12 pounds. During this time mild cough with slight expectoration. The examination revealed only a few scattered rales over the lungs. A muco-purulent expectoration; no tubercle bacilli found, leucocytes 1,000. Two months later patient returned reporting that the

cough was much better but still had fever and night sweats. The temperature in the morning normal, reaching 99.5° to 100° F. in the evening. Skin sallow. Lungs free from rales. Tenderness over the liver region, although the liver was not palpable. The patient was advised to return to Denver, where he had formerly lived. His physician there wrote us that the patient had confessed to a previous syphilitic infection. Under specific treatment the sallowness, tenderness in the liver, fever and night sweats disappeared and patient rapidly regained his weight. This case the long continued fever, that was quickly relieved by specific treatment, speaks for a probable lues. The constant hepatic tenderness with subicteric skin, would lead us to believe that the liver was the site of the trouble.

Case III. Mr. S., 37 years of age. Syphilis ten years previous. Three months previous had noticed a dull pain over the right costal arch in the mammary line. This was constant and made much worse by jarring. The pain became so severe that he discontinued his work as a locomotive engineer, remained quiet and the pain became less severe, but gastric symptoms developed in the form of weight, nausea and vomiting. The pain in the liver region during this time was dull in character—in fact, the patient never suffered from severe paroxysms. One month after the onset of the trouble the patient had daily morning chills with fever and sweats. These disappeared spontaneously after two weeks and returned again six weeks later and since then a chill each night followed by profuse perspiration. There was no icterus. Examination revealed an enlarged liver extending from the nipple to two fingers below the costal arch. Edge rounded and tender. In the mammary line and projecting about one inch below the liver edge, a rounded tumor could be palpated. On account of its location it was thought to be a distended gall bladder. With these findings a diagnosis was made of stone in the cystic duct. Operation revealed a *hepar lobatum* with gall bladder normal in size and the ducts free. Under specific treatment the patient rapidly recovered.

Case IV. Mrs. A., 30 years of age, with previous history of three miscarriages. Six years previous syphilis, was treated for a few months by inunction. For two weeks had complained of nausea and two days ago noticed a jaundice which has markedly increased since. No history of pain. The liver was not palpable and no tenderness in this region. Spleen was enlarged. Temperature normal. A diagnosis of catarrhal jaundice was made. For a period of six weeks the jaundice was unchanged. Then the patient complained for the first time of attacks of sudden severe pain in the right hypochondrium with marked tenderness in the gall bladder region. These attacks were very severe continuing one to three hours and associated with chills and fever. The above occurred daily for about two weeks when it was decided to operate, the diagnosis having been changed to gall stones. The gall bladder was found normal in size, free from calculi. The common duct was also free. Nothing abnormal was observed in the liver.

The gall bladder was drained for two weeks without any lessening of the icterus. A more careful inquiry into the patient's history developed the previous mentioned syphilitic infection. Specific treatment was instituted and the jaundice rapidly disappeared. One year later the patient returned with slight icterus which had developed recently. The liver was distinctly palpable and tender. The specific treatment had been discontinued after two months. When this was renewed the icterus again disappeared.

Case V. Patient, male, 40 years of age. Admits gonorrhoea, denies syphilis. Wife had numerous miscarriages. Always excellent health until one year ago when he began complaining of slight cough with profuse night sweat and frequent chilliness, especially in the evening. One day would feel quite well and then for several days, tired. Some headache and night sweats. Says had one period of two weeks when he felt comparatively well. The temperature has never been taken regularly but his wife says his skin is always hot in the evening. Went to Florida without relief. Appetite has been good and has gained 30 pounds in weight during the year. When

the patient came for examination his temperature was 103 F. Complained of general aching. The only physical findings were a few crepitant rales over the lower right lung; a liver normal in size as far as could be determined, the abdominal wall being thick, with however, slight tenderness on deep inspirations.

Leucocytes 4,000; Widal negative. The patient was immediately given three grams of potassium iodide daily. At the end of seven days the evening temperature was normal and now at the end of eight weeks the patient reports he has never had a return of the fever or night sweats, has lost all of his languor and feels he has regained his health. In this case considerable doubt might arise as to the diagnosis. The patient had suffered from fever and night sweats for a year. No abdominal physical findings except liver tenderness. Prompt relief after iodides with no return of fever after two months. With this evidence at least a probable diagnosis of lues might be made. As to the liver being the seat of the trouble, the moderate tenderness was the only evidence.

Case VI. Patient 40 years of age. Male. Eight years previous, trouble began with the daily chills for three weeks, temperature of 104, dropping to normal after the sweats. Subcutaneous hemorrhages during the attack. No malaria plasmodia, and large amounts of quinine did not give relief. The fever disappears spontaneously. From that time until his operation eight years later, the patient had irregular chills, fever and sweats. Often daily morning chills for a short time followed by long period without chills and with only a very slight if any variation in temperature from the normal, especially during the latter part of the trouble, however, there was almost constant evening rise reaching 100-101 F. Never any acute localized pain only general aching. Marked sallowness of the skin but no distinct icterus. Repeated blood examinations revealed slight but constant leucocytosis varying from 10,000 to 13,000. Blood cultures were negative. The only physical findings were a moderately enlarged and slightly tender liver and palpable spleen.

A laparotomy was performed with the belief that some infection of the gall bladder or tracts was responsible for the condition. The gall bladder was normal in size, somewhat thickened and bound down by adhesions. It contained a few soft masses composed of mucus and cholesterin but no well formed calculi. Cultures of the bile were negative. The liver was moderately enlarged and contained numerous small masses giving the appearance of a gumma and later confirmed by microscopical examination. Under specific treatment the patient has never had a return of the fever although one and one half years have elapsed.

Summing up the observations upon fever in hepatic syphilis, we notice that while occasionally the fever is of the continuous type, as a rule it is intermittent. Such exact periodicity is rarely observed except in malaria and it is not surprising that many cases are so treated. Chills recurring at a certain time each day, over a period of several weeks, is not infrequent. In the interval between the chills the patient is usually quite comfortable. Attacks of this character may continue with intermission for years without any detectable change in the functions or form of the liver. Spontaneous intermission of fever of weeks or months duration are not infrequent. Finally its rapid disappearance under specific treatment. It has generally been considered, that it is only the gummatous type of hepatitis that causes fever. The laparotomy reports would indicate that in many of these cases only an interstitial process was observed, however, the possibility of a deep-seated gumma must be considered. It is believed the fever is due to absorption of the specific toxin or the products of a breaking down gumma and not to secondary infection with *pus* micro-organisms as it is only in this way that we could account for the rapid improvement under specific medication.

In the diagnosis of hepatic syphilis, little of value could be derived from minute differentiation from other liver affections. Rather we must bear in mind the conditions liver syphilis may simulate. König has recently called attention to the error in diagnosis that may arise from a *hepar lobatum*

or gumma of the liver. When large and arising from the under surface of the liver, it may easily be mistaken for a kidney; when in the mammary line at the edge of the liver, for a distended gall bladder. The same conditions in the left lobe may resemble gastric tumor or even enlarged spleen. Inflation of the stomach and colon often enables us to locate the origin of the tumor. Recurrent attacks of pain resembling a biliary colic may be associated either with actual or apparent gall bladder tumor. A nodular liver may lead to the diagnosis of carcinoma and the writer knows of a case where this diagnosis was confirmed by laparotomy, yet under specific treatment recovered and enjoys good health six years after. It may be difficult for the experienced pathologist to decide whether a given gross specimen is gumma or carcinoma until a microscopical examination has been made. In all cases a small piece should be removed for microscopic study. The periodical chills, fever and sweats recall a malaria, but examination for plasmodia and the failure to respond to quinine easily settle this point. The profession is slow to realize that fever of this type that does not yield after two or three days to quinine in daily amounts of thirty grains is not malaria. The irregular type of fever with night sweats and the presence of moderate bronchitis resembles a tuberculosis, however, in a pulmonary tuberculosis sufficiently advanced to cause night sweats, there should be no difficulty in finding tubercle bacilli. Not infrequently hepatic syphilis is diagnosed as liver abscess and more work must be done upon the changes in the leucocytes in the febrile type of hepatic lues. In two cases under our observation one in a single count had 4,000 leucocytes during his fever, another where repeated counts were made at the time of chill, a moderate increase of 10,000 to 13,000 was found. Liver symptoms of varied character in a syphilitic individual should always excite our suspicion and cause us to delay surgical interference, unless urgent, until the therapeutic test can be applied. We must also remember the frequent denial of syphilitic infection made either honestly or otherwise. In these cases careful search for old

lesions may put us on the right track. One month's treatment with five grams of potassium iodide daily is sufficient to determine whether the trouble is of a specific character.

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THE VALUE AND PLACE OF DUODENO-CHOLEDOCHOTOMY IN GALL-STONE SURGERY.*

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Among the operative procedures on the common bile duct for stone is that of duodeno-choledochotomy. This operation was devised to accomplish the removal of offending gall-stones in that part of the common duct included within, or adjacent to, the walls of the duodenum, more particularly to remove stones impacted in the diverticulum of Vater. In this class of cases and in neoplasm of the papilla and, more recently, in removal of pancreatic calculi this operation has a distinct place and meets the requirements satisfactorily.

McBurney¹ in 1891 devised and first performed this operation for a stone in the duodenal part of the common duct with recovery of stone and patient. In 1894 without knowledge on his part of McBurney's procedure Kocher² employed the same route. Kehr³ independently of Kocher performed the operation in 1894. Pozzi⁴ in 1894 likewise performed the operation successfully. Robson⁵ in 1897 did the operation probably for the first time in England. Up to the end of 1899 according to Kocher the route had been employed 20 times with two (2) deaths. To this number Thienhaus⁶ by collecting 8 cases and contributing his own added 9. Besides these Robson⁷ has reported 13 of his own

cases and one of Dalziel⁸. Of these some and the one of Moynihan⁹ were for pancreatic calculi, alone or with gall-stones. McBurney has done this operation in 11 cases of which 9 are through his kindness reported for the first time by the author. W. J. Mayo has employed the operation 6 times, 4 times for stone and twice for neoplasm of the papilla. Of these 4 are herewith reported for the first time through his courtesy and 1 only is included in the statistics of Thienhaus. Kehr¹⁰ more recently reports 3 cases, and to these enumerated the author adds another. From this it will appear that without duplication so far as known 33 cases are herewith added to the 29 cases already reported, making a total of 62 cases. Twenty of these or approximately one-third, were collected by Kocher¹¹ for the period 1891 to 1900. Since then 41 or more than twice as many have been done in the last 5 years showing that the operation has found its place among established procedures. In view of the impetus of recent advances in pancreatic work the operation will doubtless acquire importance and usefulness.

Pentaloni¹² discriminates between Lithotomia transduodenalis and choledochotomia transduodenalis. The former devised and performed by McBurney consists in approaching the stone in the common duct near the papilla through an incision in the anterior wall of the duodenum and removing the stone by incising the papilla. Collins¹¹ modified the last step by dilating the papilla and removing the stone. Kocher's¹³ operation of choledochotomia-transduodenalis consists in immobilizing the stone in the duct between the fingers and after opening the duodenum, cutting directly down upon the stone through the duodeno-duct wall.

The scope of these procedures was originally confined to the removal of offending gall-stones from the lower end of the common duct, and of the series of 62 cases this was the purpose in 57 or approximately 92 per cent. Later it was made to extend to the relief of obstruction from neoplasm of the papilla. This was done in two cases or 3

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

per cent. More recently removal of pancreatic calculi by this route has been reported. Thus of the five cases of operation for pancreatic calculi collected by Robson and Clarke from the literature and reported by Robson¹⁴ three at least were modified duodeno-choledochotomies, i. e., approximately 5 per cent of the series. Of the indications for the operation the obvious is obstruction from a gall-stone impacted in the diverticulum of Vater, neoplasm or stricture of the papilla, and pancreatic calculi in the diverticulum or at, and adjacent to, the orifice of the ducts of Wirsung and Santorini. Indications of convenience, rather than urgency, are obstruction from a stone not actually in the lowest part of the duct but more accessible via the duodenum than from without by virtue of adhesions; and occasions according to Robson¹⁶, "when the liver is small and the common duct can not be made to reach the surface, it's exposure through the duodenum may be simpler than the ordinary operation of choledochotomy." Zeller¹⁶ cites an interesting case in which he failed at operation to detect a stone in the lower end of the common duct by palpation and found it at autopsy by passing a probe through the papilla. Since then he has practiced sounding the end of the duct through the duodenum when the stone is not readily palpated and thinks the danger of infection is greatly overrated. W. J. Mayo¹⁷ regards the operation as incomplete without a supra-duodenal-choledochotomy on the ground that the obstructing stone removed via the duodenum "may not be the largest present, and others may still remain in the duct;" therefore he recommends—"the common duct should at the same time be opened explored and drained." That this step is necessary or even desirable in all cases does not appear from the records of reported cases in which it was not done. Drainage, of course, in such cases which represent the cumulative effects of chronic obstruction is important for the success of the work, and where the usually small and contracted gall-bladder is not available for drainage purposes a supra-duodenal opening into the common duct may be desirable. In the author's

case, which is not cited here to prove that drainage is not necessary in most cases, the gall-bladder was removed after tying the cystic duct and no provision was made for drainage beyond that of a dilated common duct orifice which passed bile freely as soon as the obstructing stone was removed. Moreover in regard to the size of the stone would it not usually be possible to recognize a larger stone in a location more favorable for recognition than a smaller one which had been recognized in a less favorable locality? A stone too large to be removed safely via the duodenal route should be removed by the supra-duodenal way. Furthermore duodeno-choledochotomy as indicated above is preferred to supra-duodenal-choledochotomy in certain fixed positions of the common duct as from adhesions or a small liver. In suitable cases supplemental supra-duodenal-choledochotomy ensures added thoroughness and effectiveness especially when the procedure of drawing gauze strips through the duct between the upper incision in the duct and papillary orifice, as practiced by Mayo and Kehr, is carried out.

In regard to the special technique incident to duodeno-choledochotomy McBurney¹⁸ lays stress on the following procedure: "In all cases which are not complicated by very deep adhesions involving the common duct and descending portion of the duodenum, it is easy and very desirable after determining the presence of a calculus in the lower part of the duct to pass the left fore finger through the foramen of Winslow to a point behind the calculus. With the finger the lower end of the common duct, the calculus, and the descending portion of the duodenum can be lifted forward so as to bring these parts nearly or quite to the level of the abdominal incision. The duodenum is then incised in it's anterior wall for from one inch to one inch and a half, the orifice of the duct (which is usually markedly altered as to the color, etc.) is easily found and enlarged with knife or scissors or forceps, and the stone removed—all of this, and even the suture of the intestinal wound, should be completed without removing for a moment the left fore-finger from it's supporting position."

In choledochotomia-trans-duodenalis Kocher¹⁸ advocates suture of the incision in the posterior duodenal wall when one can be sure that the opening of the papilla will not thereby be narrowed. Robson²⁰ on the other hand has found no need as a rule to suture the posterior duodenal wall. As pointed out by Kocher¹⁸, however, this is only admissible when the incision has been strictly within the wall of the duodenum and does not extend upward so as to allow the escape of infected bile into the space between the duct and duodenum. The higher the incision, therefore, the greater the need of suture.

The objections to the operation are based on technical difficulties and post-operative danger. The difficulty in finding the papilla is overestimated and is apparently based on dissecting room studies where the absence of pathological guides is probably responsible for erroneous conclusions. In operating in the presence of pathological conditions we have as aids pointing to the position of the papilla first, the calculus supported on the left fore-finger and second, with the duodenum opened the thickening and discolored appearance of the papilla. Those who have actually done the operation regard this difficulty rather fancied than real. The other principal technical difficulty is the depth of the wound. With the means of bringing the parts into the wound described above and aided by Robson's²¹ sandbag under the lower dorsal spaces this objection is largely removed and certainly does not apply to duodeno-choledochotomy any more than to supra- or retro-duodenal-choledochotomy.

Post-operative dangers are said to be twofold (1) duodenal fistula threatening starvation and (2) infection leading to a fatal result. Of the 62 cases on whom the method has been used two have developed fistulae. Of these, both Robson's cases, one case, No. 288²² died three (3) weeks after operation from exhaustion due to difficulty in feeding on account of the duodenal fistula. The other case No. 431²³ developed some leakage from the duodenum which ceased after a time. In regard to infection much light has been thrown upon the subject by the vast

amount of work done in the upper abdomen. In view of the freedom with which the duodenum, upper bowel and stomach have been opened it is clear this danger is not greatly to be apprehended provided care is used in the work. In surgery of the bile tract, especially common duct stone and more particularly the late stage with stone impacted in the diverticulum of Vater it is the effect of obstruction and infection on the liver rather than peritonitis that causes death, as brought out by W. J. Mayo²⁴.

The mortality of the cases operated on by the method under discussion is briefly as follows, viz. 62 cases of all sorts with 8 deaths give a mortality of 12.6 per cent. Deducting from the number of cases the three pancreatic cases of Robson and the two neoplasm cases of Mayo and subtracting the 3 deaths in these five cases we have respectively 57 cases and 5 deaths or 8.77 per cent for the mortality of duodeno-choledochotomy in the gall-stone cases. Until comparatively recently Robson's²⁵ mortality for choledochotomy was 16.2 per cent but more recently has been lowered to 5 per cent. Kehr²⁶ has a mortality of 6.5 per cent and the Mayos²⁷ 11 plus per cent. It thus appears that the average of early and late duodeno-choledochotomies gives a mortality per cent comparable with the more recent statistics of supra-duodenal-choledochotomy.

In order to determine whether or not there were operative any factors peculiar to duodeno-choledochotomy in the 5 deaths in the stone cases it will be necessary to go behind the returns and ascertain briefly the causes of death. One of McBurney's cases died on the third day after operation, in spite of all efforts to check it, of persistent haemorrhage from minute vessels associated with deep and long continued jaundice. The second died of uncontrollable vomiting on the fourth day and at a secondary operation no abnormality or cause of death was demonstrable. These accidents are features of the conditions present at operation regardless of the special form of procedure and therefore are not rightly chargeable to duodeno-choledochotomy. Besides the death mentioned above in

which a fistula was conspicuous Robson has had a death—case No. 243²⁸—following the operation due to a sub-diaphragmatic abscess overlooked at both operations. Nothing in connection with the operative field was found post-mortem to be abnormal. Another case died of heart failure from pressure of acute dilation of the stomach, nothing else being found to account for the death. It appears from the records then, that one death with fistula and one case with temporary fistula may fairly be cited to the discredit of the operation. In view of this it hardly can be said that duodeno-choledochotomy is extra hazardous. It has participated *pari-passu* in the benefits of accumulated experience and improved technique which have accrued to this field from the vast amount of work done in the last few years. A point worthy of consideration, too, in comparing supra- and trans-duodenal mortality, is that other things being equal a stone impacted in the diverticulum or papilla of Vater represents on the average a later period in the disease process and hence, greater danger from local injuries to the parts and systematic effects of chronic jaundice and infection.

The other operations calculated to accomplish the purpose of duodeno-choledochotomy are the usual supra-duodenal operation and retro-duodenal-choledochotomy. The former fails to be effective in just the class of cases for which the trans-duodenal operation was primarily intended and offers besides no real diminution of risk. It is advantageous in some cases to perform both where stones are distributed along the common duct and finish by drawing gauze strips from the upper opening through the duct to sweep it clean. As a substitute for the trans-duodenal route the operation of retro-duodenal-choledochotomy has been proposed and performed. Berg²⁹ basing his views on dissecting room work has found with Brewer³⁰ under like conditions difficulty in finding the papilla.

The fallacy of drawing conclusions from comparisons between anatomical and pathological conditions has already been mentioned. Berg also claims the initial though slight danger of immediate peritoneal infection and that of a subsequent duodenal fistula

as objections to the trans-duodenal route. Quervain³¹ gives a summary of the work done along this line and reports a case. The first step in this procedure was taken by Lane³² when he freed the upper part of the duodenum behind for purposes of investigation but removed the stone by supra-duodenal-choledochotomy. Later Kocher³³ endeavored to displace the duodenum to one side to reach the posterior wall, but on account of haemorrhage from the pancreas changed to the trans-duodenal route. Jeantry³⁴ reports three cases performed by Monprofit. Some few others have performed operations which seem to have been along this line. After describing his own case he sums up the situation by saying that the retro-duodenal route is indicated in cases in which the duodenum may be freed in a clear, trim- (sauber)- way. Where the duodenum, common duct, and pancreas are matted together by adhesions, and one runs the risk in separating the same of injuring the walls of the gut, or starting haemorrhage in spite of care, one would do better to proceed by the trans-duodenal route. From a study of the anatomy of the pancreas and its relations to the duodenum and common duct especially as brought out by Robson³⁵ it would seem clear that this route would frequently on anatomical grounds alone not be available. Furthermore the difficulty and time involved at the start in freeing the duodenum behind while working as one must at the bottom of a deep cavity will hardly appeal to one as advantageous compared to the freedom and speed of the trans-duodenal route with the parts elevated well into the field of operation. Furthermore additional time will be consumed in any attempt to replace the duodenum in its original position after extraction of the stone. Finally there is a condition an instance of which has recently come under the notice of the author in which neither of these procedures would have been adequate while Kocher's trans-duodenal-choledochotomy would have answered very well. I refer to a case with a stone the size of an olive low down in the common duct, a gall-bladder the size of a hazel nut, absolute stenosis of papillary orifice, and a history of jaundice of 15

months standing with numerous ague-like attacks of fever, etc. The patient died from capillary and venous haemorrhage from broken-up adhesions in spite of calcium chloride, etc. Post-mortem it was clear that (1) retro-duodenal-choledochotomy would have been impracticable from the comprehensive manner in which the head of the pancreas embraced the junction of the common duct with the duodenum; (2) supra-duodenal-choledochotomy would have been but a preliminary step to a secondary choledochoduodenostomy and (3) Kocher's trans-duodenal-choledochotomy with subsequent anastomosis using the same incision in duct and gut would have accomplished the choledochoduodenostomy in the easiest and quickest way.

A brief account of the authors case is as follows: E. M. B., female, 46 years old, had a primary cholecystotomy at my hands January 10, 1903, whereby seventy-odd stones were removed. The fistula closed in five (5) weeks with an uninterrupted recovery except for slight return of nausea and vomiting, and colicky pains on the eleventh (11) and twenty-third (23) days respectively after operation. April 3, 1903, I was called to see the patient again and found her suffering with a severe attack of biliary colic. This time there was a slight but distinct trace of jaundice. Patient was removed to the hospital and operated the same day. On opening the abdomen it was interesting to notice the absence of adhesions except for one small band connecting the fundus of the gall-bladder with the peritoneum of the abdominal wall where it had been sewed at the first operation. Examination showed one small stone in the gall-bladder and another stone in the common duct where the latter passes through the duodenal wall. Several endeavors to pass the stone into the duodenum or up into the free part of the common duct were unsuccessful although the stone was susceptible of slight movement—ball-valve stone of Fenger. It became clear the simplest and quickest way for removal was via the duodenum. Securing the stone firmly in the fingers of the left hand and thus establishing a fixed point the wall of the duodenum was incised

on it's antero-external aspect. The papilla was easily dilated and the stone removed. I then sounded carefully from below and found no more stones in the common or hepatic ducts and closed the duodenum after satisfying myself, that there was a free flow of bile at the outlet of the common duct. I suspected the gall-bladder of having contributed the offending stone and having more in the cystic duct besides the one readily felt at the fundus I concluded in view of it's contracted and thickened walls and the stones to remove it. Tying the cystic duct where it joins the hepatic I dissected the mass from the liver. The slight haemorrhage was controlled by gauze packing while gauze drains were placed to the wound in the duodenum and stump of the cystic duct. After four days of rectal feeding, oral feeding was begun. The dressing was done the fourth day for the first time, and the wound healed kindly and closed the thirty-fourth (34) day. On the thirtieth (30) day after operation the patient menstruated and during the menstrual period suffered with vertigo, headache, nausea and vomiting. The vomitus contained bile showing the duct to be patent. Now, more than two (2) years later, patient reports herself as well and free from symptoms. On examination the bladder and cystic duct were found to contain many small stones those in the duct being so distributed in folds and pockets as to obliterate the lumen of the duct.

Summing up the points for and against the trans-duodenal route it will be convenient to consider the question of neoplasm of the papilla and pancreatic calculi as well as gall-stone for the reason that a fine discrimination in diagnosis is often impossible in this class of cases.

(1) In favor of duodeno-choledochotomy for gall-stones in the lower end of the common duct are (a) the avoidance of drainage in some cases where one would not otherwise wish to sew up the wound in the duct and close the abdomen; (b) the greater ease in sewing the duodenal than the duct incision by virtue of size and of the former proximity; (c) uniformly kindly healing of intestinal wounds; (d) easy and natural access to

common duct; (e) ease and benefit of dilation of papillary orifice in ensuring better drainage of bile and detritus; (f) duct may be safely incised for half an inch in extracting stone or in enlarging the orifice for drainage. Against the procedure has been raised the common prejudice against opening gut in general, the fear of fistula which occurred in but 2 out of 62 cases, and the dread of infection which as indicated above has been vastly overrated in regard to the upper half of the intestines.

(2) In neoplasm of the papilla this route is clearly indicated for diagnosis and treatment where the growth is amenable to local treatment and the gall-bladder can not be used for anastomosis or drainage.

(3) In total stenosis of the papillary orifice whether from neoplasm or trauma of stones a choledochoduodenostomy could be done with the incision employed in the duodeno-choledochotomy, where the anastomosis could be made low down in the common duct.

(4) In pancreatic stone duodeno-pancreolithotomy is an established procedure and for good anatomical reason is the method of election.

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REPORT OF LEGISLATIVE COMMITTEE.

ROCK ISLAND, ILL., May 18, 1905.

To the House of Delegates of the Illinois State Medical Society:

The Legislative Committee would respect-

fully submit the following report:

The following bills of interest to physicians were introduced into the last Legislature, and received more or less attention, according to their deserts, from members of your Legislative Committee:

SENATE SYNOPSIS.

No.	When introduced.	By whom introduced.	Abstract of Title of Bill.	Disposition.
17 Jan. 17....		Dixon.....	Act in relation to the assignment of wages, income or salary.....	A Law.....
97 Jan. 25....		McKenzie.....	To regulate the civil service in the charitable institutions.....	Second reading...
144 Feb. 1....		Humphrey.....	To provide for the treatment and care of persons afflicted with rabies.....	Tabled.....
145 Feb. 1....		Humphrey.....	To authorize school districts to establish and maintain classes for crippled children.....	Com. on Education.....
146 Feb. 1....		Humphrey.....	To authorize school districts to establish and maintain classes for the deaf pupils.....	Com. on Education.....
169 Feb. 7....		Stubblefield.....	To amend an act to create and establish a Board of Health in the State of Illinois.....	Third reading....
171 Feb. 7....		Stubblefield.....	To regulate the practice of medicine in the State of Illinois and to repeal an act therein named.....	Tabled..... (sec. S. B. 292.)
225 Feb. 21....		Clark.....	Creating a State Board of Examiners of Registered Nurses and defining its duties and powers.....	Vetoed.....
226 Feb. 21....		Clark.....	Regulating the practice of Denistry.....	A Law.....
230 Feb. 21....		Campbell.....	Providing for the training of employes in public charitable and penal institutions.....	Tabled.....
237 Feb. 23....		Galpin.....	To regulate the practice of optometry.....	Passed..... (Killed in House)
263 Feb. 28....		Dixon.....	Providing for the location, erection, organization and management of a colony for epileptics and for an appropriation therefor.....	Tabled.....
271 Feb. 28....		Hall.....	For the regulation of scientific experimentation on human beings and animals.....	Passed..... (Killed in House)
292 Mar. 2....		Com. on Lisc. and Mis. as a substitute for S. B. 171.....	To regulate practice of medicine in State of Illinois.....	Third Reading....
311 Mar. 7....		Chaffee..... (By request)	Regulating the practice of osteopathy.....	Passed..... (Killed in House)
362 Mar. 14....		Clark.....	To amend an act regulating the practice of pharmacy.....	Com. on Judiciary

HOUSE SYNOPSIS.

No.	When introduced.	By whom Introduced.	Abstract of Title of Bill.	Appropriations.
119 Jan. 23....		Nagel.....	An act providing for the regulation of the embalming and disposal of dead bodies, for a system of examination, registration and licensing of embalmers and imposing penalties for the violation of any of its provisions.....	A Law.....
136 Jan. 26....		Glackin.....	An act to provide for the location, erection, organization and management of a state sanatorium for persons afflicted with tuberculosis, and making an appropriation for the purchase of land and the construction of the necessary buildings and the maintenance of the sanatorium.....	Tabled.....
182 Feb. 1....		Kleeman..... (By request)	An act to provide for the treatment and care of persons afflicted with the disease of rabies.....	A Law.....
200 Feb. 3....		Troyer.....	An act entitled "An act regulating the publishing of statements made by companies, associations or societies operated for the purpose of furnishing the sick, accident or death benefits, and purporting to show their financial condition, and for fixing the penalty for violation thereof.".....	Tabled.....

No.	When introduced.	By whom introduced.	Abstract of Title of Bill.	Appropriations.
228	Feb. 7....	Allen	An act to amend "An act to create and establish a board of health in the State of Illinois," approved May 28, 1877, in force July 1, 1877, to establish a board of medical examiners	Com. on Judiciary
229	Feb. 7....	Allen	An act to regulate the practice of medicine in the State of Illinois and to repeal an act therein named approved April 24, 1899, in force July 1, 1899	Com. on Judiciary
274	Feb. 16....	Mundy..... (By request)	An act to amend sections two (2), three (3) and seven (7) of an act entitled, "An act to regulate the practice of medicine in the State of Illinois, and to repeal an act therein named" approved April 24, 1899, in force July 1, 1899	Com. on Judiciary
313	Feb. 21....	Bowles..... (By request)	An act to regulate the practice of chiropody in the State of Illinois	First reading
330	Feb. 23....	Glackin	An act to provide for the location, erection, organization and management of a state sanitarium for persons afflicted with tuberculosis and making applicable thereto "An act to regulate State charitable institutions and the State Reform School and to improve their organization and increase their efficiency," approved April 15, 1875, and making an appropriation for the purchase of land and the construction of the necessary buildings and the maintenance of the sanitarium.....	Vetoed.....
351	Feb. 24....	Isermann.....	An act to license peddlers, hawkers and itinerant vendors of wares, goods and merchandise outside of incorporated cities, villages and towns	Tabled
353	Feb. 24....	Hill.....	An act to provide for the location, erection, organization and management of a State colony for persons afflicted by epilepsy, and making an appropriation for the purchase of land and the construction of the necessary buildings and maintenance of the colony	Tabled
380	Mar. 1....	Clettenburg (By request)	An act entitled "An act to encourage matrimony and impose a tax on male persons over the age of thirty years.....	First reading..
393	Mar. 1....	Sheen	An act to prevent the hereditary transmission of lunacy, idiocy, tuberculosis, feeble mindedness, criminalty and other like evils that entail public expense or social degeneracy	First reading.....
403	Mar. 8....	Sheen	An act to prevent and punish the using of hypnotics, narcotics, opiates and other drugs for the purpose of aiding in the commission of crime	First reading.....
404	Mar. 8....	Trautmann.....	An act to amend and revise and to provide for the appointment of a board of commissioners of public Charity, and defining their duties and powers, approved and in force April, 1869....	Com. on Public Charities.....
405	Mar. 8....	Williams..... (Of Cook)	An act concerning the detention, commitment and transfer of insane patients	Com. on Public Charities.....
403	Mar. 2....	Gillespie..... (Of Carroll)	An act to provide a department in one of the hospitals for the insane for the detention and treatment of dipsomaniac inebriates and those addicted to the excessive use of narcotics.....	Com. on Public Charities.....
432	Mar. 3....	Trautmann..... (By request)	An act to regulate the practice of optometry in the State of Illinois	Tabled by Judiciary Committee..
539	Mar. 15....	Castle.....	An act to regulate hawkers and peddlers of goods, wares, merchandise and medicine, and to provide a license therefor.....	Com. on Judiciary
577	Mar. 15....	Rmaker.....	An act to amend sections 15, 16, 17 and 18 of an act entitled, "An act to create and establish a board of health in the State of Illinois, approved May 28, 1877, in force July 1, 1877, as amended by an act approved May 10, 1901, in force July 1, 1901, and to add an additional section to be numbered section nineteen (19)	Tabled.....
621	Mar. 22...	Sullivan	An act to define a law stenographer and to provide for the examination and commissioning of law stenographers', and prohibiting persons not qualified to practice such calling, creating law stenographers', examining boards in the several Appellate Court districts of Illinois, and defining and regulating the powers and duties of such boards, the fees for examinations and the compensation of such members, providing for a roll of law stenographers to be kept by the clerk of the Supreme Court, and making it a misdemeanor to falsely represent one's self to be a commissioned law stenographer or without commission to practice that calling as defined by the act, and specifying certain requirements for the passage of the examination provided for.....	Judiciary..

The synopsis gives the number of the bill, when and by whom introduced, an abstract of its title and its final disposition. As will be noticed by reference to this synopsis, it frequently happens that several bills were introduced upon the same subject.

Your committee devoted its time and efforts almost exclusively to securing the endorsement or protest, as the case might be, of the members of the different local societies in the State, although several times members of your committee visited Springfield and interviewed members of the Legislature at the request of members of the Legislative Committee, at least one hundred members of local societies visited the capitol during the session in the interest of proper medical legislation.

In addition much work was done by the presidents and secretaries of local societies by correspondence. During the session we were in frequent correspondence with the officers of every local society in the State, as well as with many individual members who had influence, and in this way much effective work was done. Through the members of local societies every member of the Legislature was frequently interviewed, either personally or by correspondence.

The bills which required most attention from your committee were House Bill No. 330, introduced by Mr. Glackin, providing for the location, erection, organization and management of a State sanitarium for patients afflicted with tuberculosis. Two members of your committee visited the appropriation committee of both House and Senate and spoke in favor of this bill. The bill passed both House and Senate, but finally, for sake of economy and on account of the small appropriation provided by the Legislature, was vetoed by the Governor. The appropriation was only twenty-five thousand dollars (\$25,000), which was exceedingly small.

The Optometry Bill, Senate Bill No. 237, was designed to license persons to measure vision and fit lenses by any means other than the use of drugs. This bill was killed largely through the efforts of a special committee of physicians from Chicago.

Two osteopathic bills were introduced into the House and two into the Senate. All of these were exceedingly vicious measures and required special attention on the part of your committee, and necessitated a special trip to Springfield during the last days of the session. Up to this time it was thought that these bills had been thoroughly killed. However, just two days before the adjournment of the Legislature, Senate Bill No. 311, which had passed the Senate, but which we had reason to believe was killed in the House, came to life in the Judiciary Committee. Your committee immediately dispatched over fifty telegrams to officers of local societies and other field workers, with the result that a large committee was brought to Springfield the following day. Every member of the Judiciary Committee, to which the bill had been referred, was interviewed by members of this impromptu committee. The showing of active interest on that day gave the final death blow to the osteopathic measures, as long before the time for meeting of the Judiciary Committee a member of your committee had direct pledges from more than two-thirds of the members of the Judiciary Committee of the House that they would report the bill unfavorable, and therefore the bill was effectively killed before the committee got together, at which time it was voted that the bill be reported out with the recommendation that it be not passed. A number of our members appeared before the committee at its final meeting, and addresses were made by Drs. W. A. Evans and G. W. Webster. This bill was particularly vicious in that it provided that an osteopathic physician could practice surgery, gynecology, obstetrics, and could use antiseptics, anaesthetics and antidotes. Of course, there is very little in the practice of medicine which cannot be classified under one of these heads, consequently, the bill was simply a short cut to the practice of medicine, and had little or nothing to do with the osteopathy as formerly promulgated.

The Anti-vivisection Bill, No. 271 in the House, was also a vicious measure, which required some attention from your committee. Under the direction of the chairman of your

committee formal objections to the osteopathic bill and the anti-vivisection bill were formulated and sent to members of the legislature. These formulated objections were as follows:

OSTEOPATHIC LEGISLATION.

It is the firm conviction of the undersigned that Senate Bill No. 311 should not pass. This conviction is based on the following considerations:

1. The demand is inadequate. There are less than 400 osteopathic practitioners in the State. There are 10,000 other physicians in Illinois. The number of licenses to practice granted to osteopaths each year is about 30.

The 10,000 physicians have one board of five members who not only look after registration of physicians and the proper behavior of their licentiates, but who are also charged with the responsibility of looking after the public health, sanitation and the prevention of contagious diseases. The 43d Assembly, when asked to give these 10,000 physicians a separate registering board, just what this bill gives the 400 osteopathic practitioners, refused the request.

The osteopathic colleges and other institutions in the State represent less than 5,000 dollars of invested capital; those owned, operated, controlled or directed by physicians represent more than 5,000,000 dollars of investment.

2. The bill is unnecessary. The small number of osteopaths at present in Illinois are cared for adequately under the provisions of Chapter 91, Revised Statutes of Illinois, 1901. Under the operation of that law all who are competent have been licensed. We have never heard of any claim that any single properly qualified osteopath has been refused the right to practice or has been molested in that right.

The thousands of midwives and other practitioners of limited specialties cared for under the provisions of this act of 1901 are satisfied.

If the osteopaths be given a special board the midwives, embalmers and even each special school of practice would demand separate boards.

3. The board will be inefficient. Thirty licentiates a year at \$15 each will bring in a yearly revenue of \$450. This sum will be entirely too small for efficient service. Especially does this apply to the suppression of infractions of the law as such prosecutions are always expensive.

4. It gives too much power to the Illinois Osteopathic Association. Under Section IV that society can prevent any osteopath now practicing from registering with or without cause, and from its extralegal decision there is no legal recourse.

5. It is unjust. It gives practically the same rights to osteopaths (surgery, etc.) as to physicians, yet it requires a far lower standard of preparation than is required of physicians.

For the above reasons we respectfully petition you to reject this bill.

(Signed.)

FRANK BILLINGS, M. D., *Chairman*,

ROBERT B. PREBLE, M. D.,

A. M. COWAN, M. D.

Public Relations Committee of the Chicago Medical Society.

ANTI-VIVISECTION BILL.*

Description—Senate Bill No. 271 introduced in the Senate by Senator Hall and known as the Anti-vivisection bill is similar to the bill introduced in the United States Senate by Senator Gallinger in 1899, and known as Senate Bill No. 34. In some of its sections, the wording of the two bills is identical.

The United States Senate Bill was introduced ostensibly for the purpose of regulating the practice of vivisection in the District of Columbia, but really because of the influence it would have if passed in obtaining similar legislation in the States of the Union. Notwithstanding the fact that this bill was most powerfully supported by the anti-vivisectionists throughout the country, and notwithstanding the fact that they were given every opportunity to be heard, the measure was defeated and failed to become a law. The wisdom of the Senate of the United

*The description and objections to the Anti-vivisection Bill were written by Dr. Geo. W. Webster, who permitted the chairman to use them.

States could not be befogged by the sentimentalism of the anti-vivisectionists.

At the hearing of the above bill, the joint committee of the 68 leading medical colleges and universities and scientific bodies, presented the following resolutions:

"The voice of Science and Medicine, so far as it receives authoritative utterance, is overwhelmingly opposed to legislation of any kind which would take in any measure the direction of experimental Medicine and Physiology out of the hands of those who, on account of their special fitness, have been chosen by the authorities of our higher institutions of learning, and of research to convey instruction and to conduct investigations in these departments. Unnecessary and offensive in the highest degree would it, by any system of official inspection, or by legislation of any kind, to attempt to dictate or control who and by whom, and for what purposes, and under what conditions, and upon what animals, and in what laboratories and in what institutions of the higher learning, experiments shall be made. The decision in these matters should be left wholly to those in charge of the institutions, who are the ones most competent to judge of them."

In seeking to prevent cruelty to the lower animals, the bill attempts to put an end to vivisection, not by prohibiting it, but by hedging its operation with such regulations and restrictions as to make its operation practically impossible, thereby inflicting upon both the lower animals and man a far greater amount of suffering, by denying to them the benefits and advantages which accrue from its practice.

The animals themselves have been benefited, and millions of dollars saved by the prevention of pleuro-pneumonia, glanders, anthrax and tuberculosis. In any question it is one of the greatest good of the greatest number. Men are sacrificed by the tens of thousands in war, for the good of the country. Why should the anti-vivisectionists single out for their care the few animals used for research and study and neglect the thousands of animals used for foods, for work, for amusement, for personal adornment. Why are they so solicitous of the death of a few

rats and dogs, all sacrificed on the Holy Altar of Science and Truth while so many of their sisters are allowed to go to a horrible moral death with no hand outstretched to save. Why are their ears attuned to the dying croak of a frog or the expiring squeak of a rat, while their ears are deaf to the agonizing death cry of their disease afflicted brothers and sisters. A principle is here involved which is antagonistic to the best interests of the human race.

Reasons why this bill should be defeated:

1. It is not charged or set forth that there is any need of this kind of legislation or that there is any wrong doing here and now; it is not shown that any abuses exist in this matter in this State, or that they are great, or increasing, or that they are uncontrollable under the present laws and by the public conscience and the sentiment of the medical profession. We are merely led to infer that there has been or may have been such abuses in the past, and elsewhere.

2. The present laws, State and municipal are ample to adequately prevent unnecessary cruelty to animals. Therefore this law is unnecessary. Chap. 38, of the Criminal Code, Division 1; Article 50, makes ample provision for the Criminal prosecution of those guilty of cruelty to animals. The present law makes it the duty of the Governor to appoint one officer in Cook County, one in Peoria County and one in East St. Louis, whose duty it is to see that this law is enforced. These men are paid \$1,200 each per annum and they are required to make full reports to the Governor quarterly.

3. Its real purpose seems to be to abolish rather than to restrict vivisection, by surrounding it with so much red tape as to make it impossible. Secondarily it is apparently simply renewing the old battle on a new field.

4. It involves the rights of property. We have as much right to kill our rats and mice as we have to slaughter our cattle and sheep.

5. It involves the right to freedom of choice in the selection of methods of study and research.

6. It compels a man to give evidence against himself in the reports which he is compelled to furnish.

7. It seeks to take away from legally chartered medical colleges and medical practitioners, those rights and privileges which from time immemorial have appertained to them.

8. It takes away from the Courts the right to decide whether any given act is or is not contrary to law.

9. Because it singles out for penal legislation that exceedingly small number of animals used for experimental purposes and neglects an infinitely larger number on whom we inflict pain in providing food, furnishing amusement or even personal adornment. Sexual mutilation, spaying, castration, dehorning are not for the benefit of the animals but to increase their market value.

10. Section I, providing for consent to surgical operations is superfluous. As a general proposition of law, a surgeon must have consent before operating on a patient. This section seems to open up unlimited possibilities for litigation, because of the question whether all surgical operations were necessarily undertaken for the benefit of the persons operated on. If a surgeon was charged with having performed an operation which it said by some one to be unnecessary and not for the benefit of the patient, then he would be liable under the provisions of this act and would be compelled to defend himself.

11. Section III, is the worst of the entire bill. It prohibits any medical or surgical operation or experiment of any kind on any pregnant woman during pregnancy or a year after the confinement, even though she consent to the same, her consent not being held valid, unless for her benefit. Here the same question might arise as in Section I.

12. Section IV. Why warm blooded animals only. If this bill is promoted by humanitarian sentiments, then why exclude cold blood animals.

13. Section V. This section limits those who do vivisection to physicians licensed to practice medicine in the State. Many of the most eminent physiologists and biologists of the State and of the world, are not medical

licentiates although they may be *graduates in medicine*. As examples, I might mention Dr. Loeb, for many years Professor of Physiology, at the Chicago University, now at the Leland Stanford, California, one of the most foremost scientists and thinkers and physiologists of the time.

Prof. W. S. Hall, professor of physiology, Northwestern University Medical school. These men are not licensed to practice medicine in the State.

14. Section VI. Speaks of "each laboratory licensed" for the performance, etc., while there is no provision for licensing laboratories, but for licensing "persons of good moral character who are authorized by the State Board of Health to practice medicine in the State." Article 6 of Section 6, provides for a detailed report to the State Board of Health and that "all such reports shall be printed annually in the report of said Board to the Governor."

This is a useless waste of time, an enormous amount of unnecessary work, when there is so much of far greater importance concerning those things in which the Board is charged, "the general supervision of the lives and health of the citizens of the State."

It seems quite possible that the literal interpretation and construction of this bill, if it became a law, would prevent the shooting of game or the slaughtering of animals for food as both would cause pain, and neither could be construed to be "the alleviation from some ailment."

15. Chicago is now the leading medical educational center in the United States, and one of the greatest in the world. To make modern research and teaching methods difficult would be to discriminate unfavorably against Illinois and against Illinois institutions. It would compel our students and investigators to go elsewhere, just as the anti-vivisection laws of England sent her investigators to the Continent to do their work. It would do the State an irreparable injury in a medical educational way.

It is as impossible to teach students the technic of surgical operations by seeing others perform them as it is to learn to play the

piano by proxy. It is attempting to learn to swim without being permitted to go near the water.

16. *We would remind your honorable committee* that the 43d General Assembly repealed the births and deaths law, and why? Simply because it gave people too much trouble to obtain the necessary permits to bury their dead. They did this, notwithstanding the fact that they knew that correct vital statistics are the foundation for all scientific public health work.

And yet, in the face of these facts, it is seriously proposed to keep a record, and report under oath, to the State Board of Health the deaths of all guinea pigs, mice, rats and yellow dogs, and then the Board of Health is to report all these to the Governor.

May we here remind you that it has remained for the present 44th General Assembly for the first time in the history of the State to make an appropriation for a vital statistics clerk to register the births and deaths of human beings and even this fund is not yet available. If this law goes into effect it will mean another appropriation and more clerks to register the cats and dogs and rats and mice.

The absurdity of this bill should be sufficient to defeat it.

(Signed.)

FRANK BILLINGS, M. D., *Chairman*,
ROBERT B. PREBLE, M. D.
A. M. CORWIN, M. D.

Public Relations Committee of the Chicago Medical Society.

All of which is respectfully submitted.

FRANK BILLINGS, *Chairman*,
CARL E. BLACK,
J. W. PETTIT.

Marriages and Deaths.

MARRIAGES.

Hartzell Langstaff, M. D., Roberts, Ill., to Miss Martha J. Shute of Melvin, Ill., at Chicago, July 8.

William H. Lence, M. D., Jonesboro, Ill., to Miss Mary Alden, of Anna, Ill., August 2.

DEATHS.

Frederick Brittin, M. D., College of Physicians and Surgeons, of Chicago, 1904, of Divernon, Ill., died at the home of his parents in Springfield, Ill., from septicemia, July 31.

Orville A. Harding, M. D., Rush Medical College, Chicago, of Chicago, was drowned while hunting, in the Flambeau river near Ladysmith, Wis., August 11, aged 35.

Dr. John G. Harvey of Decatur, formerly of Blue Mound, died Aug. 17 of old age. He is survived by his wife and three sons. He graduated at the Louisville Medical College in 1862 and was 66 years old and blind at the time of his death.

Dr. E. E. Holroyd, formerly of Chicago, 887 Washington Boul., graduate of the College of Physicians and Surgeons, Keokuk, Iowa, died at Orchard, Alabama, July 10, 1905.

Joseph W. Kumpe, M. D., Medical College of Alabama, Mobile, 1873, died at his home in White Sulphur Springs, Mont., August 4, after a lingering illness, aged 58.

Horace Laidlaw, M. D., University of California Medical Department, San Francisco, 1880, chief surgeon of the Oceanic Steamship Company for five years, and surgeon to the Spreckles plantations at Maui, Hawaii, for three years; died at his home in San Francisco, August , after a long illness, aged 45.

Thomas J. Mitchell, M. D., University of Louisville, Ky., Medical Department, 1848, surgeon of the One Hundred and Seventh Illinois Volunteer Infantry in the Civil War, and a prisoner in Libby Prison, died at his home in Bement, Ill., August 3, from dropsy, after an illness of more than a year, aged 82.

Unsuccessful Remedy.

A quack, so the doctor books chronicle,
Declared to the world: "This here medicine
Work a radicle cure
Of all ills we endure—"
Now surely that speech was ironicle.
—Baltimore American.

Made to Order.

A small girl was taken violently ill from an over-indulgence in unripe fruit. Her mother telephoned for the nearest doctor, whose telephone number proved to be surprisingly appropriate to the occasion, "eight-one-two-Green."—Lippincott's Magazine.

Most Likely.

Moses cast down his rod, and it became a serpent, and he fled from it. If a man in these incredulous days should tell of a personal experience as this all his frads would swear he had the delirium tremens.—Boston Transcript.

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

SEPTEMBER, 1905.

NEXT ANNUAL SESSION, SPRINGFIELD, MAY 17, 18, 19, 1906.

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HEALTH AND PLEASURE RESORTS OF THE WEST.

The American citizen of the present prosperous era is fast developing that sixth sense known as travelism. His favorite trail for some years has been the well beaten European path, but finally and happily he is finding in America, and especially in the West, attractions which are to be found nowhere else, and he is visiting them. The health and pleasure resorts of the West and Northwest have been visited by more people and especially by more physicians this year than ever before. This because of the Portland meeting, and the low travel rates offered by it.

Either going or returning nearly every medical tourist made the circuit of the Yellowstone National Park. If any failed to visit this National domain a great mistake was made because it is certainly the Wonderland of the world and is the one spot which the erudite gentlemen who edit the railway and tourist agency folders are unable to overpraise. No description that we have yet seen does justice to the marvels of this park. This was the unanimous expression of all the visitors. Unfortunately the facilities for handling the numerous tourists this season have been entirely inadequate. On this

account there were some unusual hardships which caused caustic criticism of the management. One who has traveled to any extent knows how little all this talk usually amounts to, and gauges it accordingly. Kicking is the cherished privilege of many travelers. It is therefore not from temporary irritation that these notes are written but after well digested thought we venture to make some suggestions which may result in some real improvement of existing conditions.

* * * *

In the first place facilities now existing for conveying people around the park are totally inadequate and antiquated. The four or six horse team and stage coach is romantic and many people honestly believe that much of the charm of the trip would be lost if more modern methods of transportation were adopted. This sentimentalism is akin to that which prevailed for so many years in Switzerland and which prevented the construction of electric railways to the summit of the Alpine peaks. Switzerland fortunately has long since abandoned this absurd idea and as rapidly as possible all the wonders of this European play ground are being made easily and comfortably accessible. When the great educational value of the park is taken into consideration it seems as if every facility of modern times should be given to make it accessible. This can be very easily accomplished by the introduction of the trolley car. Undoubtedly the power for generating electricity for this purpose can be easily and cheaply obtained from the water power now going to waste. Then the dust which for at least 40 miles of the road is such a terrible nuisance, can be entirely eliminated. The immense stables which are maintained so disagreeably near the hotels can be almost if not entirely abolished and many other discomforts of stage travel, such as over-crowd-

ing and inability to see from the middle seat, can be prevented. We could imagine only one objection to the trolley car and that would be the tendency to hurry through, but this could of course be obviated by regulations, for six days is certainly not too long a time to commune with nature in the heart of the Rockies.

* * * *

The hotels and lunch rooms about the park are upon the whole attractive and comfortable, but were not managed during our trip as it would seem they should be. A lack of system prevailed which caused hardship. After a tiresome drive or walk about the formations it was very provoking to stand in line to hold, often by force, the right of entrance to the dining room, to which priority entitled. This could be easily obviated by giving out numbered tickets and announcing the hour when the guest could probably be served. This idea seemed to have penetrated the brain of the manager at the Norris Basin lunch station and the confusion which was notable and disgraceful on the first day was avoided on the return trip by this simple expedient.

* * * *

The food and water furnished throughout the park is fairly good but we would urge that especial care be taken to obviate the contamination of the water supply by the large crowds now passing through. These crowds are almost certain to be much larger in the future and the dangers of contamination will of course be that much greater. A large number of tourists were afflicted with bowel complaints, but whether this was due to the water, the food itself or the haste with which it was eaten, we can not state. Any one of these might be responsible.

A large proportion of the fish caught in

Yellowstone Lake are wormy, but we presume none of the diseased ones are served on the tables of the hostelrys depending on the lake for fish.

* * * *

The water closet and bath accomodations are, at nearly every hotel, inadequate. The accommodations furnished the help in several hotels was said to have been disgraceful. We can not vouch for this, but if such conditions as we heard of are true, some means should be taken to preserve these persons from overcrowding by night and overworking by day.

* * * *

The high altitude and remarkably bright sun worked havoc with the facial epidermis of nearly every tourist. Every one should be warned to take into the park an emollient salve for application night and morning. Water should also be used sparingly on the face, but it is almost impossible to abstain from frequent ablutions because of the heat and dust. Mosquito netting head covers for the head would be valuable accessories.

* * * *

The cost of the trip could be and should be reduced. The association now receives nine dollars per day for the board and transportation of tourists, besides extras probably amounting to two dollars per head per day, and is said to have cleared \$250,000 last year. This year they should clear from \$4000,000 to \$500,000. The cost of the trip could be reduced 50 per cent and still a handsome profit be made. If trolley cars are introduced and the number of tourists increased as it should and would be, still greater reductions could be made.

The journey of sixteen miles from the thumb lunch station to the Lake Hotel is hot, dusty and almost devoid of interest. The discomforts can be obviated by a boat ride

across the lake costing an extra sum. Nearly every tourist consents to the "hold up" which is furnished the Wiley Camp parties free of cost. We should think that this outrage could not be permitted to long continue.

* * * *

Our plea throughout this article is to make this wonderland as easily, comfortably and cheaply accessible to the people of America and the world as its important educational worth entitles it. We would like to see every school child in the United States make the round of its sights.

LAW REQUIRING REGISTRATION OF BIRTHS IS NOT WORKING PROPERLY IN CHICAGO.

Hugo S. Grosser, Chief Statistician of Chicago, declares that he is unable to tell the birth rate in that city. In the course of an interesting interview published in the Tribune, he said:

"You ask me whether the figures given out by the census bureau at Washington showing a great decrease in the birth rate apply to Chicago," he said. "You ask me but I do not know the answer."

Then the city statistician proceeded to make some revelations. Here are some of them:

No one in Chicago knows the city's exact population.

No one knows how many babies were born in Chicago last year.

No one knows whether the birth rate has increased or decreased.

It was with deep sorrow that Mr. Grosser made these admissions. He feared they would be published far and wide and bring disgrace upon the city.

Says Records Are Incomplete.

"The records kept by the health department are admittedly incomplete," he said. "Only about 60 per cent of the total of births in Chicago are reported officially. It is an outrage that there is no better system and that the registration of births is not enforced by the police department. There is an ordinance fixing a penalty of from \$10 to \$100 for failure to report births. On the other hand the State has offered a bounty of 25 cents for every baby reported. With a 25 cent premium placed on obedience to the law the ordinance constantly is disobeyed and only a little over half of the births are reported."

If the statistics available could be believed, Mr. Grosser declared, President Roosevelt would cut Chicago off of his calling list. The best figures obtainable show that in the last thirty years the birth rate in Chicago has fallen off from a ratio of one in 40.37 to one in 70.5. These figures, according to the city statistician, are enough to make every member of the 3,000,000 club commit suicide.

In 1874, according to the best statistics available, there were 9,794 children born to Chicagoans. The rate would be one to 40.37. In the year following, 1875, the rate decreased to one to 40.03. From 1875 until 1897 no statistics of any kind bearing upon the birth rate are obtainable at Mr. Grosser's office. In 1897 there were 28,162 births. Last year, with the population increased over 600,000, there were only 27,802 births, according to the figures obtainable.

Figures Make Statistician "Mad."

In 1900, when the federal census was taken and the city's population was nearly 400,000 less than it was last year, there were 29,568 babies born, 1,666 more than last year. This stirred the statistician.

"It makes me mad to have such figures," said Mr. Grosser. "In European cities, and even in South America systems have been established through which registration of births is enforced. Chicago is a straggler. It is away behind in the procession."

The reports of deaths are compulsory in the city because a certificate is necessary to secure burial or shipment of a body. So the health department figures on the death rate are accurate and not to be questioned. In the matter of the birth rate it is different. It depends almost entirely on the disposition of the attending physician or midwife of the family. If they care to report the birth it is recorded; if they neglect it there is no penalty enforced.

PALMIST AND CLAIRVOYANT SWINDLERS OF CHICAGO TO BE LOOKED AFTER.

At last Chicago has awakened to the fact that a band of swindlers, 800 in number, are committing daylight robbery under the guise of fortune tellers. It seems incredible that such a number of parasites could find means of existence in a modern city, but apparently humanity has after all not progressed far beyond the civilization of ancient Greece or Rome when it comes to love for the

mysterious and a constant desire to be humbugged. Since a guardian can not be appointed for each of these "suckers" it is well for the police force of our cities to take them in hand and as far as possible stop their depredations. Think of the mental caliber of a school teacher that believes in clairvoyancy. Would it not be a good plan for the Chicago School Board to warn teachers that in the future dismissal would result if they were caught tampering with this foolishness. In New York the County Medical Society has taken an active part in the prosecution of this gentry and we hope the Chicago Medical Society will at least give it their moral support. A committee to urge active prosecutions would be better. In nearly every instance moreover it will be found that these people are practicing medicine and are amenable to the act designed to regulate the practice of medicine in Illinois. The Chicago dailies give the following facts:

This raid was only preliminary to a more comprehensive one to be conducted against the 800 palmists and clairvoyants in Chicago. The detectives are looking for one Abrams, who is said to have operated a bucket shop in connection with fortune telling at Eighteenth street and Indiana avenue.

Two women recently complained to the detectives that they had lost \$5,000 in ill advised ventures at Abrams' place. Abrams has gone. Widows and school teachers, it is said, were among his victims. Hundreds of other fortune tellers, according to Detective Wooldridge, have been advising clients to invest their money in "fake" oil or mining stocks and in bucket shops.

Complaints Welcomed by Chief.

"The chief," said Detective Wooldridge, "would be glad if any one who has been referred to any bucket shop, gold mine, or oil well promoter by a fortune teller would make immediate complaint. These fortune tellers have been preying on widows and unsuspecting school teachers, and in conjuring up for them bright dreams of wealth, dreams that always are shattered, they have done more harm than all the gamblers in Chicago."

Correspondence.

Freeport, Ill., Aug. 22., 1905.

Dear Editor:

In the last issue of your Journal, which contains the councilors' reports, in my report of Winnebago County Medical Society. I stated that their president is very unpopular and since his election they have not been able to get out a quorum. Upon further inquiry I am happy to say that my informant misrepresented the actual facts in the case and that they have held several very successful and interesting meetings during his presidency and that he is highly esteemed by the medical profession of Winnebago County Medical Society.

My function is to tranquilize and not inflame, and I am very sorry if any offense has been given.

Fraternally,

J. H. Stealy.

CLINICAL REPORT.

IODIZED LIME IN CROUP.

About six years ago, or possibly longer, my attention was called to the use of iodized lime in croup; and if you have ever sat beside the croupy child, and seen the anxious, drawn face, and listened to that rasping, harrowing cough, and administered emetics, diaphoretics, etc., and wondered if the child would never get better, you may feel sure I was ready to give anything a trial that offered a hope of better things. Consequently I decided to obtain some iodized lime, and try it the first opportunity; which I did.

In the first case, a three-year old, I used gr. 5-12 every fifteen minutes, and was pleasantly surprised to find the child getting better before an hour had passed. In less than two hours I was ready to go home, the child having fallen quietly asleep.

I felt that certainly I had found a valuable addition to my armamentarium for treating one of the diseases of childhood.

I have not intended to give cases and re-

sults down to minute detail, but will simply say that further experience with iodized lime more than confirmed my first impressions; so that now, when called to a case of croup, I give 1-3 to 1 gr. of iodized lime, in hot water if possible, every ten to thirty minutes; according to the urgency of the symptoms, until better—which is usually in about one hour—and then less often.

I could give scores of cases in which this remedy has done me good service. Sometimes it seems to work almost magically. But I will just mention a recent case somewhat in detail: A boy 7 years old suddenly developed that metallic cough, which strikes such terror to the hearts of parents; and his father being somewhat acquainted with some old treatment, having been a physician, began to treat him with emetics, lobelia, etc., but failed to make any good impression. By 8 p. m., or two hours after the attack first began, I had been sent for and was beside the sick boy.

The father said: "Oh, Doctor, do you think you can save him?" I assured him that I felt equal to the occasion; for I had an ounce bottle of iodized lime in my medicine case. The little fellow was certainly in great distress, his face was livid and he breathed with the greatest difficulty. He certainly presented a most distressing appearance.

However, I immediately gave him at 8 p. m., one grain of iodized lime in a tablespoonful of hot water, and repeated this dose every ten minutes for seven doses, that seventh dose being given at 9 o'clock; when he began to expectorate some, and the anxiety and difficult breathing were being perceptibly diminished. Then I gave 1-2 gr. every fifteen minutes, for another hour, when all the gravity of the situation had vanished, he was breathing quietly and easily, and said he wanted to go to sleep. I assured him he was all right and told him to go to sleep, which he did.

I left the house in two hours from the time I arrived there. I left directions to give him a dose of iodized lime every three hours, and if he should get worse to give it every fifteen minutes till better, but to continue next day

every three hours till all symptoms subsided.

The parents informed me that this boy had had siege after siege of croup every winter, but under the above treatment he promptly recovered and had no return, and there has been no attack since.

Many times I send this remedy with directions to give till effect. In fact the people have learned what it will do, and come in and say, "Doctor, fix me some of 'that croup medicine' right quick. One of the children has croup very bad." I ask: "Had I better go and see the child?" They answer: "No, I think not. One of the others had it just as bad last night, and we gave him 'that croup medicine' you left when you were there to see another one, and he got all right. But if I don't succeed I'll call you." But they never call, for the remedy does the work.

In the case mentioned, the father told me that a doctor worked with the same boy all night, in a previous attack, and they really feared he would not get through.

Only a few days ago a two-year old girl took suddenly with croup. The parents sent to the store and got some patent preparation; and not getting satisfactory results sent and got a bottle of something else, and still no results. Twelve hours after the first attack I was called, as she was getting worse. I gave one-half grain iodized lime every one-fourth hour for five doses; when she calmed down, went to sleep, and waked up well.

Have you tried it? No?

Well, don't say a word till you do; and when you do try it, if you do not find it all I have said, I don't know why, unless you do not give it frequently till effect. I have never been disappointed in it. When I am, I'll note the fact, and tell you.

Iodized lime will save you many weary hours; and many mothers many anxious nights.

DR. J. R. LANDERS.

Bernadotte, Ill.

County and District Societies.

EAST ST. LOUIS MEDICAL SOCIETY.

Regular meetings are held the first and third Mondays of each month excepting July and August.

Officers.

President.....W. S. Wiatt
Secretary.....C. A. W. Zimmermann

Society met in regular session on June 19, 1905, with Dr. W. S. Wiatt, president, in the chair; Dr. C. A. W. Zimmermann, secretary; and the following members: Applewhite, Bottom, Rendlemann, Whitmer, Lillie, Adams.

Minutes of two last meetings read and approved.

Dr. Bottom read a paper on "Face Presentation With Report of a Case." Discussed by Rendlemann, Whitmer, Adams, Applewhite and Zimmermann.

Dr. Rendlemann read a report of a case of "Edema Neonatorum." Discussed by Whitmer, Applewhite, Zimmermann and closed by Dr. Rendlemann.

Dr. Lillie, chairman of the committee to select a site for a tuberculosis sanitarium reported that a suitable place had been found on the bluffs, but that the price had not been secured.

On motion it was agreed that if the committee should be able to find a place it could recommend, at a price not prohibitory, that the

secretary should notify the members as well as Dr. Porter, of St. Louis, of the time and place of meeting with the City Council.

On motion it was agreed to ask the medical members of the Library Board to exert their influence to have the Board receive and bind such medical journals as might be donated, so that they might be used by the profession. In seconding the motion Dr. Lillie offered four journals free.

On motion the Society adjourned to meet on the first Monday in September, notice to be given of the place.

ST. CLAIR COUNTY MEDICAL SOCIETY.

Regular meetings are held quarterly at Priesters Park on the first Thursday of January, April, July and October.

Officers.

President.....W. E. Wiatt, East St. Louis
Secretary.....W. C. Spahnagel, Belleville

The St. Clair County Medical Society held the regular quarterly meeting at Priester's Park July 6th, 1905, with President W. E. Wiatt in the chair.

The members present were Drs. Wiggins, Wiatt, Wangelin, Starkel, Auten, Fairbrother, Lillie, Twitchell, Hansing, Loelkes and Spannagel; and Dr. Wm. Porter, guest of the society. The meeting was called to order and the min-

utes read. The members of the board of censors not being present, the president selected Drs. Wiggins, Twitchell and Hansing to act in their places. Application of Dr. C. E. Pierce was presented and reported favorably by the Board of Censors. Dr. C. E. Pierce then becoming a member of the society. Before taking up the scientific programme, Doctor Wiggins made a few remarks in reference to Doctor Fairbrother, that he being one of the oldest members of the society and for his long continued and good services he be made an honorary member. He also suggested that Doctor Porter, for the deep interest he had taken in helping us to secure a hospital for tubercular patients, be made an honorary member. That we congratulate Doctor Starkel for his success in securing the appointment as chief surgeon of the Southern Railway Company. Dr. Lillie said that Doctor Wiggins remarks are timely, one spending his money and time should be appreciated and that Drs. Fairbrother and Porter should be made honorary members. None stands higher in his profession than Dr. Porter especially in diseases of chest and lately tuberculosis. Dr. Starkel's remarks on railway surgeons in this he feels that the doctor is not getting a sufficient compensation for the work that he has done, and it will be his earnest desire that the fees be made larger. Dr. Fairbrother appreciates Dr. Lillie's paper on tuberculosis and the establishment of a sanitarium in this county on the bluffs. He believes in supporting the enterprise and getting others interested. In reference to Dr. Starkel's appointment stated that the society appreciated his success as chief surgeon of the Southern Railroad. He thinks that the work Drs. Lillie and Porter are doing along these lines will better the people. Dr. Wiatt believes that the Board of Supervisors of St. Clair county ought to be consulted as to where the hospital ought to be located especially for charity. Dr. Wiggins moved that we ought to take up the scientific programme and it was suggested that Dr. Lillie read his paper on tuberculosis. Dr. Lillie read a long and very interesting paper. The subject, "A Plea for the Victims of Tuberculosis." He assumes that it is not necessary to send them away from home. The paper was freely discussed. Dr. Auten, while in Philadelphia in the years of 1888 and 90, was interested in tuberculosis at that time and made a canvas of the tenement houses and found a large percentage of them infected with phthisis. At that time the public or rather the people of West Philadelphia, were opposed to the erection of a phthisical hospital. Drs. Starkel and Wiggins think that the county should work in conjunction with the city of East St. Louis. Motion by Doctor Starkel that there be appointed a committee to meet the committee of East St. Louis and Belleville to erect a sanitarium. The subject, "A Prevention of Phthisis and the Erection of a Sanitarium." The president selected Drs. Fairbrother, Wangelin and Starkel. Dr. Fairbrother tells us that Dr. Egan and the board of health will assist us by supplying us with pamphlets and

various other printing matter to stamp out this dreadful disease. The society has put cognizance in this substance and will put their shoulders to the wheel and help it along. Dr. Wiggins believes that Drs. Lillie and Porter are doing good work in this line to educate the public. Among the good things are environments, good food and early diagnosis. Dr. Wiggins in commending Dr. Lillie on his paper said it is without doubt the most common sensible and practicable paper he ever heard read. He believes that you should educate the medical man to make an early diagnosis. Dr. Starkel suggested that nothing can be done without an organization, he suggested that Dr. Lillie have the committee to meet, also that Dr. Porter meet in conjunction with them. Motion meeting adjourn.

W. C. Spannagel,
Recording Secretary.

STEPHENSON COUNTY MEDICAL SOCIETY.

Regular meetings are held at Freeport quarterly.
Membership 30.

Officers.

President Dr. W. J. Rideout, Freeport
Vice President Dr. J. N. Daly, Orangeville
Secretary Dr. K. F. Snyder, Freeport
Treasurer Dr. M. M. Baumgarten, Freeport
Board of Censors: Dr. Hillebrand, Dr. B. Erp.
Brockhausen, Dr. J. A. Poling.

At the regular meeting of the Stephenson County Medical Society, Dr. J. H. Firestone of Freeport read a paper entitled, **Mechanical Therapeutics.**

The early Greek gymnasium gives the first authentic history of mechanical therapeutics.

Before the time of Hypocrates and during the Aesculapian period of medicine massage and manipulation was performed by the Greeks.

Hypocrates himself required a knowledge of massage from his followers, and stated that a hard and stiff joint was made limber through kneading, pressure and rubbing and a weak joint strengthened by the same manipulation.

So much for the beginning of mechanical therapeutics.

The future is before us and unknown.

The present we have with us and of which we are a part.

So for the present and for this occasion we have divided mechanical therapeutics into five different classes or heads, each division being named according to the mode of manipulation, as follows:

Vibratory massage, Osteopathic massage, Swedish massage, Simple massage, and Electrical faradism as massage.

Under these different heads and their combinations is included all that we know of mechanical therapeutics.

The method, usually selected, is more apt to be the one most convenient, and most easily applied and is usually made without a careful differential as to which method would be best adapted to that particular case.

The indications for using this treatment are as varied as the class of cases we treat.

Functional stimulation is the key note.

Universal application is possible.

All cases which we meet have need of functional stimulation.

It may be the inhibitory nerve centers or the accelerator nerve centers that are in need or it may be that the lymph or blood channels are dammed up and need flushing.

In all functioning organs where we have nerve, blood or lymph supply, either depressed, congested or obstructed or their function affected in any way whatever, then stimulation by means of mechanical manipulation or vibration is good treatment.

In surgery after operations it may be useful either at point of operation to loosen up newly formed adhesions or breaking down old adhesions; stimulating functional suppression following surgical shock or anaesthesia to quiet and soothe the nerve centers or to aid in food assimilation and excretion by stimulating the function of all organs.

In internal medication by the stimulation of all functioning organs it becomes a direct stimulant and not an artificial lift which we must give every two to four hours in dram doses as is the case in medication. Constipation, portal congestion are only two suggestions in this class of cases that may be benefited.

That it is the treatment *par excellence* in mental and nervous diseases is generally accepted.

Here again it becomes an immediate part toward a more complete functional restoration by attacking and stimulating nerve centers directly. In orthopedics, by remodeling deformities, loosening adhesions at tendons or joints followed by stimulating the weakened muscles and in this way developing the natural splints and support for the weakened tissues, it is second to no other method of treatment.

In the treatment of gynecological cases the tearing up of adhesions in chronic conditions by massage and correcting abnormal positions is common to us all and is of great importance in handling this particular class of cases.

In obstetrics and pediatrics we can repeat the same story.

Wherever we wish to stimulate the functional activity of any organ or their composite tissue cells we have no better agent nor one that is more acceptable.

So if you please, I will again reiterate the fact that mechanical therapeutics can be universally adapted to nearly all ailments of the human body at some stage in the treatment of the case.

Yet while we say that it is universally adapted to all cases yet by no means can it be considered a cure-all or all the treatment necessary. The facts are that in many diseases such as typhoid fever, pneumonia, diphtheria, etc., it is only a small factor if used at all and than it is considered more as a luxury than as a necessity.

By whom and under whose direction shall this universal agent for good be applied?

Every element which has great power or

influence for good if well directed has the same force or influence for evil if misdirected.

Mechanical therapeutics has been debased to a greater or lesser degree ever since the time when it was first introduced in the Roman baths. And from that time until the present, massage and manipulation has been applied by people of extremely varied qualifications and characters and for various objects.

Shall this mighty influence for the bettering physically of this generation, and through them the untold millions of future generations, be allowed to be applied, misdirected and misused by Tom, Dick and Harry Jones and all the Mrs. and Miss Jones of this and other countries? Or shall it be placed in the curriculum of our medical colleges and taught by the best and ablest men in the profession.

Taught by men who are acquainted with disease and who know the anatomical relations of each organ, nerve, blood and lymph channel to the disease in question.

The class of patients who usually apply for this treatment are often our best families and best paying patients and are among that class who frequently object to taking much medication for any chronic functional diseases if it is possible to avoid it and if the work can be done mechanically.

This kind of treatment may justly be called the luxuries of medical treatment.

Yet if we do not do the work neither do we get the credit, influence or money which accrues from the successful treatment of these cases. The reason that osteopathy has so many friends among the well to do class and so few among the poorer class is owing largely to the fact that it is expensive treatment and only the better class can pay for this kind of treatment.

One reason why our senators, congressmen, able lawyers and some of the most influential men politically and legislatively are apt to be influenced and look kindly upon the advertising masseur or manipulator's legislative measure is from the fact that some one he has personally known and it may be one of his immediate family or himself who at some time has been greatly surprised to know that they possessed a dislocated spine and other numerous complications, which, said spine after a long or short period of treatments and a longer bill, had been mechanically and successfully manipulated into a perfect condition and the patient into better health.

The objection often given by the medical practitioner is that he is too busy and that it takes too much of his time from his regular practice.

If you will allow me to give his principle objection (and one which he may not admit) to doing this kind of work, you will find that it is this—that he does not know how to do the work.

Which in my mind in nine cases out of ten would be the correct objection. If this is true it should be made possible for every medical student who graduates in the future to know

how to apply and use mechanical measures as an aid in therapeutics and the treatment of disease. If he does not he comes out handicapped for this reason.—This is the age of medical legislation and in some localities we are actually being legislated out of business.

The law says to the Osteopath or Masseur, "You must have the degree of M. D., if you wish to treat disease other than by massage."

At first he rebels and becomes antagonistic to the entire medical profession but he is finally compelled to obey the law and comes home an M. D. as p. d. q. as he can. And we have this condition of things to contend with.

An antagonistic M. D. plus an Osteopath or Masseur who, while compelled to be of us is not with us and probably never will be.

An advertiser and a knocker, and why not, for we gave him the first bump. The solution for this condition to my mind is to teach mechanical therapeutics and teach it practically and thoroughly in every medical college and every post graduate college in the land.

"Be all things to all men in order that some may be saved."

And if it is vibratory, osteopathic, or Swedish massage let us have the opportunity of obtaining the best information possible on the subject and not be compelled to go to Mr. or Mrs. Jones questionable institution in order to obtain what we must have.

Discussion by Dr. Rideout, Freeport, Ill.

I have listened with a great deal of interest to the paper presented by the essayist, and most heartily concur in the ideas he has so emphatically expressed.

Were we all better prepared and fitted, to use what is of real value of the various forms of mechanical therapeutics—and would use them intelligently and scientifically—we no doubt would benefit more of our patients—and at the same time help to eliminate a class of irregular mechanical therapists—who use their certain line of treatment on every patient whether indicated or not—and in some cases do actual harm—probably not so much by its continued use—as in some cases—causing to be postponed—more necessary treatment—as for instance—where a surgical operation is necessary or indicated; in this manner jeopardizing the life and health of the patient. We should know when to use such treatment—when it may be continued to advantage or when it should be discontinued and something more necessary substituted.

In eye, ear, nose and throat work,—of which I was asked to speak in discussing the paper—we find mechanical therapeutics, in several of its forms quite valuable, and I am quite sure that we would find it even more valuable, were we more perfect in the knowledge of its use and application. In this line of work it has been used more in connection with treatment of catarrhal deafness, and although some cases are not greatly improved—yet we find some one or more of the forms of mechanical therapeutics of decided benefit in the majority of the cases we see. Many, other ear, eye, nose,

or throat conditions might be mentioned where mechanical therapeutics can be used advantageously; but I believe the point which the essayist wished to emphasize is—the necessity of our preparation to use what is good in mechanical therapeutics in order to head off or counteract the abuse of the same—as well as to benefit our patients—a point which I consider well taken, and I certainly agree with him in that it should become a branch for study in our medical colleges.

Discussion by Dr. Bushnell, Freeport, Ill.

The paper just read is a most interesting one and is valuable to the medical profession from many standpoints, especially as it sets forth before our minds the necessity of adopting mechanical therapeutics as an adjunct to our armamentarium. It also shows us how we can increase our clientele and at the same time hold our patients and get results; where on the other hand they become tired of taking medicine and finally consult an osteopath or masseur.

If cured, said patients are then very loud in praising the impostor and oftentimes in condemning the profession. Admitting that mechanical therapeutics is useful in treating disease generally. Why not establish a chair of mechanical therapeutics in our medical colleges and post-graduate schools and teach this branch to the coming physician and our present day practitioner?

This then would do away with the manipulators who are untrained in the etiology and pathology of disease who will harass and annoy the hard working doctor of medicine as long as he is allowed to practice that branch and to ignore the pathology of disease.

As soon as the medical profession adopts mechanical therapeutics in truth as an adjunct to our means of cure and cease sitting back in their chairs and saying it is only a question of psychology then will we be free from the stranger who rents an office, across the street, puts out a large sign, with something like the following. "All diseases permanently cured."

The following are a few diseases in infancy and childhood in which mechanical therapeutics is of unquestionable value, contractures following meningitis, deformities following rhachitis, late stages of acute poliomyelitis, multiple neuritis, atrophies, dystrophies, muscular rheumatism, arthritis deformans and constipation due to atony of the bowels. While these are only a few yet it is enough to impress upon us the adaptability of mechanical therapeutics in pediatrics.

Discussion by Dr. L. G. Voight, Freeport, Ill.

Mechanical therapeutics used in surgery is daily gaining grounds. It must however be used by intelligent men, men who are familiar with the conditions existing in diseased areas.

To allow this method of treating disease to pass into the hands of incompetent men will not only do injury to the patients but will lower the standard of its usefulness.

That mechanical therapeutics has unlimited usefulness, is an undisputed fact. In surgery its usefulness is numerous.

Although rheumatism may be considered a medical case, still the chronic forms are often looked upon as surgical. In these cases, massage, whether produced by vibratory, Swedish or osteopathic has a big field, of usefulness.

In orthopedic surgery, all forms of massage are very important in the treatment. Curvature of spine, deformities in joints or muscular contractions often yield very readily to mechanical treatment, but these cases in particular require competent medical men to obtain good results.

According to some authorities post operative adhesions are often broken up by properly applied Swedish or vibratory massage.

In fractures and dislocations, massage should be applied soon after the bones are so united that motion will not displace the fragments.

The above enumerated diseases, and the results, with mechanical therapeutics gives us only an idea how valuable, such treatment is to the profession and also how important it is that all colleges should adopt a course of instructions in this line of treatment so that all physicians will obtain a knowledge as to its usefulness and its mode of application.

If the profession in general would pay more attention to mechanical therapy and apply it more universally there would be a far less tendency of having our patients leave us and go to some quack "physician" who knows little or nothing about disease or the pathological conditions in disease which is just as important under a course of mechanical therapy as it is under a course of medicinal treatment.

Adopting the method of treatment among the physicians at large would soon cause the unlicensed practitioners to seek other methods of obtaining a practice.

Discussion by Dr. Smith, Freeport, Ill.

To be abreast with the times, with justice to all, broadness of views and an ambition for the best interests of his patients, undoubtedly were the promptings in the mind of the essayist while preparing his paper.

By the results of practical application, mechanical therapeutics has demonstrated that it should not be left out of the practice of medicine and surgery nor allowed to exist as a distinct entity but understood and utilized by all practicing graduates of medical schools.

Having been asked to discuss the section of this excellent paper, relative to internal medicine, let me speak of the fact that we many times are called upon to care for surgical troubles that were primarily medical and early medical attention many times would have avoided the necessity of surgical procedure. Administration of internal medication should be reinforced by the application of mechanical vibration.

This section of this paper would deal with certain forms of gastric, hepatic, enteric and other troubles, but suffice it to say that what holds good in the main, with the principal involved, in the treatment of one diseased organ can be universally applied. The aim in mechanical therapeutics is to stimulate better

functioning of the tissues directly involved. A thorough knowledge of anatomy and physiology with keen diagnostic abilities is an absolute necessity in order to be able to apply this branch of the art intelligently and effectually.

For the sake of illustration, let us look at a few conditions, where relief is looked for generally only by drug administration.

The third to the eleventh dorsal nerves inclusive, furnish the principal nerve supply to the liver, in cases of hepatic disturbances, mechanical vibration applied to this region of the spine quickly demonstrates that the functioning of the liver can be materially stimulated by mechanical means; still farther activity of the organ can be produced by applying active manipulation to the tissues directly over the organ.

The bane of the practice of medicine (**Constipation**) when due to lack of peristalsis, can many times be completely relieved and cured in a short time by the proper mechanical means being applied to the roots of the last three lumbar and the first four sacral nerves.

Mild mechanical stimulation to the vagi and splanchnic nerves assists in producing a more active peristalsis of the intestines, while in those cases where peristaltic action is too great and we have the symptom of pathological unrest (diarrhoea) firm mechanical vibration over the splanchnic and vagi nerves will control the condition; demonstrating that we can control by mechanical therapeutics some of the troubles that are looked upon as purely medical cases.

The key note of success in the treatment of all medical cases by mechanical vibration is nerve supply and its origin, how to stimulate and how to inhibit.

Realizing the tendency of the public mind for less medicine, the competition and the absolute need of being able to meet the demands made upon us, to employ the latest and best therapeutic means in every branch of the healing art, would it be wise of us to advise prospective students to attend medical colleges where so important a branch, to meet the demands of the present time, is left out of their curriculum.

New Incorporations.

New incorporations have been licensed by the Secretary of State at Springfield, as follows:

American Correspondence School of Electro Therapeutics, Chicago; capital, \$2,500; educational; incorporators, A. D. Gash, James H. Hooper and Page V. Lyon.

Ways of Wealth.

"I wonder," said Farmer Cornloss, who had just returned from a trip to the big city, "why so many young men insist on not gettin' rich."

"What do you mean?" asked his wife.

"They all want to be lawyers or doctors instead o' bein' restaurant waiters or policemen."

—Washington Star.

Chicago Medical Society.

The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building.

OFFICERS:

C. S. BACON, 426 Center Street President
FRANK X. WALLS, 4307 Ellis Avenue ... Secretary
A. E. HALSTEAD, 2937 Indiana Avenue..... Treasurer
W. A. EVANS, 103 State Street..... Chairman Medicolegal Committee
WM. HARSHA, 103 State Street..... Chairman Membership Committee

SEPTEMBER, 1905.

CASE OF INJURY TREATED BY SKIN GRAFTING.

Read before the Evanston Branch of the Chicago Medical Society, by C. W. Chapin, M. D., Weldon, Ill.

I have thought the following case of injury deserves some attention because of the unusual extent of the wounds, and the expedition of recovery together with the change of treatment in one or two points that might have been beneficial.

History.—W. H. McM., age 28, white male, married, occupation saloon keeper and machinist; smokes moderately; total abstainer; personal history first class; family history, badly alcoholic, otherwise negative; personal history negative.

Injury.—The accident under consideration occurred Dec. 16, 1904. While running a corn sheller, in reaching for an ear of corn the coat sleeve caught in a pair of cog-wheels which were running in such a manner as to draw the sleeve and arm down. As it passed through between the cogs the skin was pinched up and torn loose on one side of the arm, but the muscles, because of their density, slid out from between the meshes of the cogs.

The area of skin thus removed extended one-half to two-thirds the circumference of the arm on the inner and lower side and from about four inches above the wrist joint to the axilla, being fifteen inches long and four to five inches wide. This skin was attached to the lower edge of the wound except on the forearm where the injured skin was disconnected from all uninjured skin, and was only attached to the flap above. This entire wound was black with axle grease and dirt and the skin could be separated from the coat only by attachments and texture. There were also several gashes on the shoulder and breast several inches long. As the arm was drawn through the cogs the face was drawn into another beveled cog wheel which ground through the right cheek, removing two teeth and injuring the maxilla to such an extent that

the bicuspid socket together with a large piece of bone sequestered and was removed during the fourth week. This injury extended from the corner of the mouth to a point one-half inch past the last molar. Besides this there were several lesser wounds on the face, including a cut through the center of the lower lip from its edge to its labio-gingivial fold.

The patient was driven four miles through a cold wind with a towel wrapped around the arm and a handkerchief about the face. In this condition he was brought to a country doctor's office twenty-five miles from the nearest hospital and two days away by train.

I called Dr. D. D. Barr, of Weldon, Ill., to assist me in dressing. Without anaesthesia, the wounds of the face were cleansed as thoroughly as possible with a strong mercurial soap solution. The mucous membrane of the cheek was sutured with continuous silk sutures and the cutaneous defects closed by the same method. All lines of union on the face had healed by the tenth day except a part of the cutaneous wound of the cheek which became infected, and a considerable part of the lacerated tissue necrosed and sloughed out. This was healed by the sixth week.

The arm, around which centers the chief interest, was cleansed in the same manner as the face and the flaps of skin fitted into place as naturally as possible and sutured with silk. The forearm part of the flap was badly lacerated, and numerous tension sutures were used, exerting slight tension to as nearly as possible cover the denuded surface with skin. The entire wound was covered with skin except about one square inch on the forearm, which we lacked skin to cover. The skin on the arm was not under tension in the least. Passing longitudinally through the entire length of the flap was a row of cross gashes about one inch long and one inch apart, made by the cogs, probably in running the arm out of the machine, as the latter was reversed to disengage the parts. The arm was dressed in extension with a dry dressing. By the second day all of the skin between

the above row of cog wheel cuts and the free edge of the flap was blackened, and by the tenth day had sloughed off. During the process of sloughing and until the skin grafting operation the arm was dressed in a moist dressing of four per cent oxychlorine solution, alternating every third day with a one per cent carbolic acid solution of twelve hours duration.

During this period the temperature ran about 99 degrees in the morning and 100 to 101 in the evening. The granulating surface at this time

in place by a single layer of narrow gauze bandage applied quite snugly. An abundance of dry gauze pads were applied on this and the arm put in a plaster cast in full extension.

On the third day the dressing was removed. Almost no secretions were found and but little soaking needed. All grafts were firmly adherent except the upper inch where the cast had rubbed new skin loose.

The after dressing was with oiled rubber tissue for three days, followed by a ten per cent



was fourteen inches long and averaged about four inches wide, covering over fifty square inches.

Under anaesthesia all granulation tissue was removed under irrigation of sterile salt solution with a sharp curette and scalpel. The area on the arm was covered with grafts raised as thin as possible, about as thick as newspaper. On the forearm strips were used consisting of the entire thickness of the skin, four to six inches

boric acid ointment for one week and subsequently an inert powder was used. After the eighth day a few of the thicker grafts began sloughing, but rapidly assumed a normal appearance under the dry dressing. On February 1st, six weeks after the injury, the wound was covered with epidermis and the patient attending bar.

I believe there are a few points in this case worthy of a special note, all centering in the



long and about three-fourths inches wide. These were laid not quite touching, about one-sixteenth inch between two contiguous strips. Any subcutaneous fat was removed from the under surface of each graft with curette before applying. All of the skin was transferred from the patient's thighs. The grafts were covered with strips of rubber tissue one inch wide dipped in sterilized oil, laid on with the edges slightly over-lapping shingle fashion. These were held

large area of skin successfully grafted at one sitting.

First.—The patient's general condition was maintained above par in spite of the continuous septic condition of the face, thus giving the patient a high resistance to infection and keeping the skin in first class condition. This condition was established and maintained by careful attention to the excretions and secretions and to the general hygiene of the sick room.

Second.—To the importance of thorough curttment of the wound, and to the method of holding the grafts in place with a single layer of gauze.

Third.—To the slight sloughing of the grafts under the ointment dressing, which was cut short by a change to powder.

Fourth.—To the importance of early grafting where contracture deformities are impending, ignoring the conditions of the granulation.

Fifth.—To the successful taking of grafts of different thicknesses at the same sitting.

Sixth.—I believe there is much less contracture in the area covered with the thicker skin than that covered with the thinner.

At present writing the deformity has decreased to less than 5 per cent flexion when the arm is fully extended with no interference with flexion at all. The strength and activity of the arm is but little impaired at present.

March 10, 1905.

CHICAGO NEUROLOGICAL SOCIETY.

A regular meeting of the Chicago Neurological Society was held May 25, 1905, with Dr. H. N. Moyer, the president, in the chair.

A case of *Peripheral Nerve Syphilis* was demonstrated by Dr. Julius Grinker: A. C., a German, aged 40, single, a cook, entered the Cook County Hospital, March 17, 1905. His family history is negative, he is a moderate smoker, never drank spirits and but little beer. He had several venereal sores about 8 years ago, one of which was a hard chancre. This was followed by secondaries, such as sore throat, alopecia, mucous patches and eruptions. About 7 years ago he suffered from what he calls acute articular rheumatism. His joints were swollen and painful for three months, and the disease disabled him altogether for about 6 months. Last September he experienced severe pains in his left thigh, which he considered rheumatic. After the application of some liniment, he discovered that not only was his thigh smaller and weaker, but that his left eye was also turned inward and that he saw double. A few months stay in the hospital brought about much improvement and subsequent treatment at the Illinois Eye and Ear Infirmary completed the cure. The condition of the thigh, however, has remained unchanged.

He now comes to the hospital on account of severe pains in the entire right half of his face, which affect principally the right ear, but also involve the lower maxillary region. For a week he suffered constant pain, which even a tooth extraction failed to relieve.

Status Praesens. The patient is a small, poorly nourished man of middle age, who talks rather rapidly and stammers considerably. His face presents a typical peripheral facial paralysis. The wrinkles on the right half of his forehead have disappeared, the right eye does not wink, the right half of the face has lost all expression, the right corner of the mouth droops, while the left is drawn up high. When he attempts to wrinkle his brow the right half

remains motionless. Sniffing is only done with the left half of the nose; in speaking only the left half of the mouth functionates, and in an attempt to uncover the upper teeth, only the left side responds. In an effort to close the eyes, Bell's phenomenon is elicited on the paralyzed side of the face, to-wit: the affected lid fails to completely cover the eye-ball, and instead, the latter turns upward and outward, so as to hide the iris. The pupils are equal and react well to light and accommodation.

While there is subjective pain in the region of the ear, there is no tenderness over the mastoid, and objective sensory disturbances cannot be elicited. No signs of external or middle ear disease can be found. There is no nerve-deafness.

The tongue is protruded in a straight line. Taste is markedly impaired in the anterior two-thirds of the right half of the tongue. The post-cervical and inguinal glands are slightly enlarged.

The left thigh is considerably smaller than the right and its strength is greatly reduced. There is tenderness at the point of exit of the sciatic nerve, and when the sciatic is put on the stretch there is some pain. The thigh muscles on the left side are soft and flabby and present distinct atrophy. On the middle third of the right leg there is an old scar of about the size of a half dollar, which has pigmented edges and a parchment-like center, evidently the remains of a tertiary syphilide.

The grip in both hands is about equal and normal. Sensation is nowhere disturbed. The superficial reflexes are present everywhere; McCarthy's reflex is absent on the right side. The deep reflexes are normal in the upper extremities. Knee jerk is exaggerated on right side, and considerably reduced on the left side. Achilles jerk is present bilaterally, but somewhat less marked on left side. Co-ordination shows nothing abnormal. Gait is about normal. The eye-grounds are normal.

Dr. Alfred C. Croftan asked why, if this be peripheral alone, there is no sensory or reflex disturbance.

Dr. Grinker replied that the knee jerk and the Achilles jerks are considerably reduced. Nonne has described a case of root neuritis (leaving out the posterior roots) giving no sensory disturbance. He takes this to be purely an anterior root affair and not a mixed nerve affair; otherwise there would be sensory disturbance, which is not present.

Dr. D'Orsay Hecht said, with reference to syphilis as an etiological factor, that he thought it unusual where a lesion seemingly involves the sciatic, that it is not bilateral. He believed that syphilis is not credited with picking out one sciatic and not the other. It has usually been bilateral, such as spinal caries would involve. He did not think it was so selective as to involve one anterior crural and one sciatic, minus the sensory symptoms. He had specially looked up the sciatic neuritis and found it was not unilateral.

Dr. Harold N. Moyer said he did not see any reason why it could not take one extremity and not the other. There is no absolute certainty that this is peripheral; it may be central; it may be nuclear.

Dr. Herman Gradle asked if there was any difference in the watering of the two eyes to which Dr. Grinker replied that as he had peripheral facial paralysis, the right eye did not close and allowed the tears to overflow. The patient said his eye had watered a couple of days ago. Dr. Gradle thought this would speak in favor of its being peripheral; if it were central the eye would not water and it would close.

Dr. Grinker, in answer to the discussion, stated that Nonne had said that in an individual already subject to syphilis, or who has had syphilis, there appear besides other cerebral symptoms, or without any brain symptoms, gradually progressive paralyses of various cranial nerves, which are recognized as peripheral, for instance facial paralysis. One nerve after another is attacked in a most irregular succession. In the second place there may appear gradually increasing neuralgias in various spinal nerves, with hyperaesthesias, or girdle pains, as a consequence of posterior root involvement. Disease in the anterior roots will manifest itself by corresponding motor paralysis of the peripheral type. Dr. Grinker's idea of the pathology of this is, not that it is a blood disease, but that it is due to thickenings at the foramen of exit which compresses the nerve and causes degeneration, in the spinal and in the cranial nerves. He had seen reports of isolated neuralgias of the trigeminus as a manifestation of syphilis, brought about in the most natural manner in the world; it may occur as a part of a periostitic process in the foramina of exit; at the optic foramen, foramen ovale and foramen rotundum. It is possible that any of these foramina may become narrowed. If there may be an isolated neuralgia of one branch, why not here where we have a multiplicity of nerves affected in an irregular manner. The idea of a poliomyelitis could not be entertained. It does not pick out just one nucleus or one muscle or one group of muscles very often, except in childhood, where we have acute anterior poliomyelitis, which is a vascular disease. Here we have an irregular type, and all are aware that syphilis is distinguished by its irregularity, its atypical involvement of nerves or other structures, and this explains everything satisfactorily.

Dr. Moyer said that the basis of syphilis made a satisfactory explanation for the picking out of nerve cells in groups, here and there.

Dr. Hecht asked how much of the deformity in the leg was attributable to the sciatic, to which Dr. Grinker replied that part which involved the posterior muscles. The anterior crural is mostly involved, as can be seen by the atrophy of the quadriceps muscle.

Dr. Hecht said it was certainly anomalous for the sciatic to be involved to the extent of

permitting deformity, without sensory involvement.

Dr. Croftan asked if it could not be atrophy from disuse of some muscles; Dr. Grinker said that could not be considered.

Dr. Moyer said he was reminded of a case Dr. Mix had in the Cook County Hospital; Dr. Mix had said it was a case of hemiplegia and the patient could not close his eye. There are 30 or 40 cases on record where the eye would not close. Dr. Moyer had gone to see this, but when he got there the eye would close. A few days since Dr. Moyer himself had had a case of undoubted syphilitic left hemiplegia, and the patient could not close his left eye, but before Dr. Mix could arrive to see it it had disappeared. In these two cases it had only lasted a day or so. The other symptoms remained, but cleared rather rapidly. There are few cases in which the eye does not close, but he knew of no rational explanation for it.

A case of **Traumatic Dementia** was also demonstrated by Dr. Julius Grinker, who said: To make a diagnosis of traumatic dementia is rather a daring thing to do. Is it dementia? If so, how do you know that it is traumatic? If traumatic, it may not be dementia. However, it will be seen this case is what is claimed color. The man is a German, 54 years old, with negative family and personal history. Was first seen April 10, 1905. He has been married 23 years. The only child died of an acute gastro-enteritis at the age of 5 months. There never were any miscarriages and his wife has always enjoyed excellent health. He has never had venereal disease; the wife shows no signs of having passed through syphilis. Oppenheim, when he examined a man accompanied by his wife, or a woman accompanied by her husband, always examined the partner to see if there was an Argyll-Robinson pupil, which would give him the proper clue to the diagnosis. Neither this man nor his wife shows sign of syphilitic disease.

The onset of the trouble dates back about 12 or 14 months. A bag weighing about 150 pounds fell upon his head while he was handling cars. It stunned him, he fell to the ground, was unconscious about a half hour, and then walked home unassisted. Shortly after this he began to have headaches, which lasted about three months and were very severe, preventing sleep; they gradually disappeared. He continued at work, but was not as strong as usual. Nothing unusual was noticed about him, except that his memory began to fail about four months ago and a failure in speech induced him to seek relief. He gets excited very easily, flushes all over and gets into a perspiration, but all this passes off just as rapidly as it came on. These vaso motor attacks come particularly when he is given some task and wants to concentrate his attention and does not succeed. He becomes very much excited, but has never been violent, has never had delusions, illusions or hallucinations. He is aware of his mental defects and for the past few months has not been able to follow his business. His temporals

stand out in most conspicuous fashion, tortuous and throbbing as he had one of his vasomotor attacks when attempting to say something; hesitated and then brought out a few words in a peculiar fashion. His reflexes are exaggerated all over. He has never had bladder or sensory disturbance of any kind. The facial muscles are tremulous; the tongue shows a coarse tremor on protrusion, which is made worse by having him do something hurriedly. The speech is hesitating and there is syllable slurring and elision of words, particularly marked when he attempts to repeat the usual paradigmata "Peter Piper picked a peck of pickled peppers," etc. While attempting to say these words there is a twitching in his muscles. His mental powers are very deficient. In trying to relate facts, he looks at his wife for confirmation. The pupils react to light and accommodation. Motion, sensation and co-ordination are normal in every respect. The superficial and deep reflexes are present. The knee jerks are exaggerated, the right more than the left. The Achilles jerks are brisk. The patient has a voracious appetite and has been sexually impotent since the accident. Arteriosclerosis is well marked in the radials. The heart sounds are rather indistinct, but no murmurs are heard. A chemical and microscopical examination of the urine yields negative results. The patient's usual mood is that of depression.

There is no history or evidence of syphilis, but a positive history of trauma, followed by violent headaches lasting for months. The speaker thinks there has been a lesion in the cortex which has caused atrophy of the cortical cells and tangential fibres, and it presents the same picture as found in ordinary paralytic dementia. He is inclined to call it a pure progressive dementia of the simple type. The patient is depressed, has no plans for the future, has congestive attacks, or vasomotor attacks, all of which have slowly developed after trauma.

Dr. Moyer said the difficulty was in excluding other processes, and syphilis can never be excluded absolutely.

A brain from a case of Syphilitic Hemiplegia, presented by Dr. Grinker: This brain, he said, was from a case reported in his article on Juvenile Tabes. The patients had snuffles for a few weeks, and chronic hydrocephalus at 18 months, and in 1899 a right hemiplegia preceded by severe headaches which lasted a few days. About a month later another attack of right hemiplegia which lasted a day or two. Three months later she had a more severe attack of right hemiplegia; with this attack she also developed aphasia and had a paraphasia which was very distinct and lasted her until her death. She never recovered her speech properly. Three years after this attack she developed Jacksonian fits. They always began in right half of the face, involved the right upper extremity and lastly the leg; towards the end over the attack would extend to the opposite side of the brain and become a generalized fit of epilepsy. At times she could prevent these

attacks, or somebody could prevent them. She had an aura and her brother would hold her hands or slap her face, and the attack would sometimes be aborted. These attacks, which became frequent towards the end, were somewhat controlled by bromides. To repeat the points; she had snuffles, eruptions, hydrocephalus and ozena; destruction of the hard palate; teeth that resembled the Hutchinson teeth and an interstitial keratitis about two or three years ago. She died, at the age of 22, at Dunning, in an attack of status epilepticus.

The brain is presented in the so-called neurological sections. As the brain is lifted up, the side that is affected can be seen. It is somewhat smaller than the other side and shows on the outside a peculiar condition. This is taken to be a meningitis which came on towards the last. It feels gummatous and looked yellowish when first removed. One side is entirely atrophied. We find softening and cicatrization in the region of the left internal capsule which extends outward to the cortex. Going further, this becomes more marked. There was evidently an exudation in and dilatation of the left lateral ventricle. Here is the soft broken down tissue that has organized and it has extended up to the cortex. Going still further, it will be noticed that the internal capsule has been broken through by softening. A crumbling mass is seen where the internal capsule has been involved. The disease must have started on the outside. Here can be seen the open arteries, which stand wide. It started in the middle cerebral. All the way through it is seen that one side is immensely dilated, which may have been of many years standing, on account of the hydrocephalus which was easily diagnosed when she was quite young.

Dr. Grinker summed up the case by saying that the hemiplegia was probably caused by a thrombosis, a softening, followed by a cicatrix. The gradual onset, absence of unconsciousness, pointed to arterial thrombosis, while the Jacksonian fits indicated cortical irritation and pointed to scar tissue. The age of the patient, and gradual and repeated development of hemiplegic attacks make the diagnosis of brain syphilis certain.

News Items.

Dr. Shearl has located in Sherman.

Dr. Knoop has located in Chesterfield.

Dr. L. N. Lindsey has located at Forsythe.

Dr. Hosea Vice has located at Thompsonville.

Dr. Leo. Schule of Decatur has located at Casino.

Dr. Saml. Donovan of Lovington has located at Cadwell.

Dr. W. H. Stoltz has removed from Lawrenceville to Casey.

Dr. J. N. Morgan has removed from Moline to Las Vegas, New Mexico.

Dr. W. B. Gardner of Loami has gone to the Pacific coast on a vacation.

Dr. Roy E. Browne has removed from 100 State St., Chicago, to York, North Dakota.

Dr. and Mrs. Geo. Y. Banzet of Evanston are visiting in Montreal and Quebec, Canada.

Dr. Roy Rogers of Shelbyville has returned from a four months' tour through the British Isles. He will practice in Springfield.

Dr. G. F. Stericker of Springfield visited his family in Old Mission, Mich., for ten days in August.

Dr. D. D. Barr of Weldon has removed to Taylorville and taken up special eye and ear work.

Dr. W. P. Armstrong and family of Springfield are spending the hay fever season in St. Ignace, Mich.

Dr. and Mrs. Jas. C. Gill of 833 Warren avenue, Chicago, have returned from a three months' trip to Europe.

Dr. T. C. Buxton of Decatur, coroner of Macon county, has been elected president of the Illinois State Coroners' Association.

Dr. E. H. Pratt of Chicago announces that he will soon give the final course in official surgery. Sic transit gloria mundi.

Dr. E. E. Hagler sold a farm of 240 acres lying near Virden for \$125 per acre. He paid less than \$60 per acre for it five years ago.

Dr. J. W. Thompson of Nilwood has sold his practice to Dr. D. A. Morgan of St. Louis. Dr. Thompson will take a special course in Chicago.

Dr. Estelle Paullin Padgett of Springfield has gone to Kalispell, Montana, to look after property interests and will probably locate there for the practice of medicine.

Dr. W. H. Fraser of LaSalle has been elected royal physician of the Royal Clan, the governing body of the Order of Scottish Clans of the United States and Canada.

Dr. W. B. Pickrell who practiced homoeopathy in Springfield for some years, will go to the College of Physicians and Surgeons, Chicago, this winter and obtain a regular diploma.

The patents on the manufacture of chloroform has expired in this country. They were held by two firms in New York state which have commenced its manufacture at Niagara Falls and will cheapen the cost.

Dr. Ralph S. Porter who entered the regular army medical service in 1898 as a surgeon of volunteers and now ranks as First Lieutenant and Assistant Surgeon, has been ordered to Manila, P. I. for duty.

Doctor Drowned While Swimming.

Mt. Vernon, Ill., Aug. 23.—Dr. L. W. McCawley of Kell who was at Clay City for an outing concluded to take a swim in the Wabash river. When he failed to return to his boarding house at the expected time, a search was made and his clothing was found on the banks of the stream. The river was dragged and his body found a short time afterwards. He was alone at the time of the accident and it is presumed was seized with cramps.

Illinois Pharmaceutical Association Berates the Doctors and Bad Pharmacists.

Chicago, Aug. 24.—The physician who rolls his own pills and compounds his own prescriptions was given a black eye at the convention of the Illinois Pharmaceutical association. It was a heated discussion which ended in the adoption of resolutions recommending stricter laws regulating the compounding of prescriptions. The discussion was led by George P. Englehard, editor of the Western Druggist. "The United States is the only country which permits the physician to enter the sick room, diagnose the case and administer medicines prescribed and compounded by himself and, in case of death, write the certificate."

Resolutions were also adopted commending the prosecution of adulterating pharmacists and the indiscriminate dispensers of cocaine.

An Aged Physician Dead.

Peoria, Ill., Aug. 18.—Dr. Harriman Couch, aged 81, and for fifty-two years a resident of this city, died today of old age after a long illness. He was a native of New Hampshire, where he learned the printer's trade. Then he became a sailor, and coming to Peoria followed the printing trade. During his leisure moments he studied medicine and began its practice during the war. He is survived by his widow and three children. He was not a graduate of a medical school.

Paradise in Advance.

"The man died eating watermelons," some one said to Brother Dickey.

"Yes, suh," he replied, "sometimes Providence puts us in paradise 'fo' we gits ter heaven!"—Atlanta Constitution.

Real or Fancied.

"What can I do for you, sir?" asked the drug clerk.

"Well," replied the man, "my room was full of rats last night, and I want——"

"Yes, sir," interrupted the bright clerk, "bromo for yourself or strychnine for them?"—Catholic Standard and Times.

THE VALUE OF CYSTOGEN

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GONORRHEA

is specially pronounced in those forms where gleet is the prominent symptom. Where gleet has involved the deep urethra and bladder the influence of Cystogen is evident in the rapid clearing of the urine and the disappearance of pus. When the urine is acid the addition of Lithia is of value and seems to aid the curative properties of Cystogen.

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INFANT FEEDING IN SUMMER

The problem of substitute infant feeding becomes more complicated with the advent of the hot months. The milk supply of most communities is bad enough at all times, but in summer it presents grave dangers to the bottle-fed infant. Most peddled milk contains an enormously high bacterial content and the use of preservatives is by no means uncommon. Even pasteurization of milk, once it is tainted, does not eliminate danger.

The rational solution lies in the use of

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The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

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PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

SCROFULOSIS WITH INVOLVEMENT OF THE SKIN.

The form of scrofuloderma, most frequently seen in practice has its origin in the lymphatic glands of the neck, axilla, and inguinal region. Under the skin glands may be felt as firm, movable, tolerably numerous bodies. Their growth is slow and indolent. Occasionally here and there a gland may attain considerable size, which either remains indolent for a long time or undergoes spontaneous resolution, or more frequently terminates in suppuration. Preceding the suppurative process the overlying skin becomes thin and takes on a violaceous color. Later the skin breaks down and after rupture there is a discharge of thin, curdy pus mixed with blood. Sinuses form and the skin is undermined and perforated leading to the formation of strenuous ulcers. In shape the ulcers are oval or linear and show purplish undermined edges. Pale, unhealthy granulations cover the ulcerous surfaces.

In some cases according to Eve a conglomeration of glands may be detected which show no tendency to fuse or become matted together.

Another form of strumous dermatitis is the so-called scrofuloderma, which commences as small nodules and gradually attains a considerable size. Hallopeau has observed that these gummata occur along the course of the lymphatics of a limb. Another skin manifestation of scrofula is chronic eczema of the skin or scalp found in patients who have a tuberculous diathesis. Eczema of this variety is apt to be scaly and indolent though very stubborn, and shows little response if measures are directed to the local condition alone and the general state of nutrition ignored.

The above described conditions are most frequently encountered according to Holt, among children from three to ten years of age, and he recommends the very best surroundings as the "sine qua non" of treatment. This includes diet, climate, fresh air. The indolent local condition should be let alone, and the parts merely kept clean. For internal medication the syrup of the iodide of iron and cordial of cod liver oil (Hagee) should be the physicians main reliance, and occasionally arsenic should be used to supplement the other tonics mentioned. —American Journal of Dermatology.

The Illinois Medical Journal.

The Official Organ of The Illinois State Medical Society.

Vol. VIII. No. 4. }
25c per copy }

Springfield, Ill., October, 1905.

{ SUBSCRIPTION
{ \$2.00 A YEAR.

DISEASES OF THE BILE TRACTS.*

CARL E. BLACK, M. D., JACKSONVILLE.

Bewildering Situation.—In considering diseases and disorders of the bile tracts we are confronted by a situation which is somewhat bewildering.

Rapid Progress.—Progress has been so rapid and the advances so irregular that it is especially difficult for the general practitioner who has not kept up with each advance to understand the new etiology and pathology on which the present surgical treatment is based.

Living Pathology.—Surgery has brought to us a knowledge of conditions as they exist in the living subject, and this has led to conclusions at variance with those derived from dead-room pathology.

Post-mortem Pathology.—The great difficulty at present is that the post-mortem pathology, with its deductions, still possesses the minds of the great body of the medical profession and the deductions of the operating table are only beginning to be understood.

Double Nomenclature.—This gives rise to a double nomenclature, and in fact, nearly every book, no matter how recent, is more or less biased by the old conclusions.

Foundation Principles.—In this study the principal thing which one must do is to discard, for the moment, details and seek foundation principles.

Questions are Simple.—After reading a voluminous literature on the subject of "Diseases of the Bile Tracts," it appears that after all the whole question is far simpler than at first supposed. In fact, a correct understanding of any disease or group of diseases always leads to simplicity.

Jaundice Only a Symptom.—At the outset

we must dismiss jaundice as only a symptom, and in no other way a part of the classified diseases of the bile tracts and not essential to them.

Correct Diagnosis Most Important.—The most important thing, from the practical standpoint of treatment, is the correct diagnosis. This paper will be largely devoted to a consideration of some of the important elements in diagnosis. *Old Diagnosis Points are Giving Away to New.*—Nothing so strongly impresses itself in reading the literature as the fact that the diagnostic points, which were formerly held as all important, must now give way to others which until recently were either overlooked or considered of slight significance.

Correct Diagnosis.—The question which confronts the surgeon, and prior to him his colleague in general practice, is the correct diagnosis of the case in hand. The practical questions are: first, is the disease in the bile tracts; second, what part or parts are involved; and third, what is the character of the disorder.

Operation May be Based on Either Conclusion.—The anatomical relations of the bile ducts and gall-bladder rarely make it possible, to apply direct methods of diagnosis. Their location necessitates the differential method. We must often arrive at a conclusion by exclusion and not infrequently resort to an incision and direct examination. It will not be difficult usually to determine that the case is one requiring surgical interference and as the practitioner gives these diseases more careful study it should be almost as easy to arrive at a diagnosis of disease of the bile passages as of disease of the appendix in the female.

Classification of Diseases.—We find in the bile tracts only three classes of disease:

First, That due to inflammation.

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

Second, That due to foreign bodies within the bile tracts.

Third, That due to pressure upon the bile tracts from without.

Injuries and Malformations.—With the exception of injuries and malformations, there is no disorder of the bile tracts which cannot be classed under one of these headings.

Inflammatory Disorders. — Inflammatory disorders, of course, include all the infections, whether acute or chronic, which produce catarrhal, suppurative, phlegmonous or

ed, which, while they are not very true to nature, may assist in following the subject.

Surgical Treatment.—The surgical treatment of these tracts was, until a comparatively recent date, confined to operations for gall stones. It would, therefore, seem proper in studying the basis of the diagnosis of these diseases that we first consider their relation to gall stones.

Gall-stones, Their Frequency.—It has been estimated that 10% of adults have gall-stones and that 5% of these have symptoms arising from them or in connection with them. This



FIGURE 1.

Bile Tracts and their relations (after Kehr, 1905) showing Gall-Bladder; Bile Tracts; Kidneys; Spleen; Pancreas and portions of Liver, Duodenum and Arteries and Veins.

gangrenous inflammations, but these are in no way peculiar to the bile tracts, or the gall bladder. They occur in the appendix, in the tubes and ovaries, and, in fact, are common to every mucous surface and mucous cavity.

Foreign Bodies.—Foreign bodies include, first of all, calculi; second, parasites; and, third, miscellaneous foreign bodies.

Pressure from Without.—Those disorders which produce disease by pressure from without include benign and malignant tumors and diseases of neighboring parts

Diagrams.—Several diagrams are present-

brings up the interesting question, as to what causes latent calculi to become active?

Gall-stones. Their role in Producing Diseases of Bladder and Ducts.—The role of gall stones in diseases of the gall ducts and gall bladder is as yet in much disagreement. It is well known that gall stones are frequently found post-mortem without having produced symptoms, and in fact cases are on record where gall stones have ulcerated through and caused intestinal obstruction without sufficient symptoms from the biliary apparatus to attract attention. They are an indirect cause

of acute catarrh of the bile passages, and in suppurative cholangitis there is frequently a history of one or more attacks of gall stone colic; and, in fact, some recent authors speak of gall stones as one of the most important causes of suppurative cholangitis. To say the least, suppurative cholangitis is usually associated with stones in the gall bladder. Attacks caused by catarrh of the gall bladder may simulate those due to gall stones so closely that it is impossible to differentiate, excepting that in the catarrhal attacks the symptoms are less severe and prolonged. No stones are found in the evacuations. Jaundice is either absent or slight and there is no tenderness on pressure.

Gall Stones Active Only in Presence of Infection.—Gall stones rarely become active without the presence of infection, and they never produce symptoms until they interfere with drainage.

Obstruction from Gall Stones.—When they provide irritation for infection they produce inflammation and when they try to escape they obstruct the flow of bile and produce jaundice.

Calculous Formation and Infection.—We will not take up the various questions involved in infection and calculous formation. It will be sufficient to say that there is a wide difference of opinion. It is not important to our consideration whether infection always precedes, and is the cause of formation of calculi, or whether calculi are formed without infection and by their irritation invite infection.

Presence of Gall Stones an Incident.—As a matter of surgical experience we never find calculi without a certain amount of infection, and the infective disorders are frequently accompanied by calculi, which in themselves may or may not have been symptom producing. It would appear that the factor of infection is more important, even in the presence of gall stones, in the production of symptoms, than the calculi themselves. The presence of gall stones is usually an incident of the inflammatory disorders of the bile tracts rather than the cause. However, further studies in the operating room may change or modify

this conception. The point is one which is still under discussion. The phrase "Gall-stone Disease" has given rise to considerable misunderstanding as to the real nature of the process and should be abandoned as misleading. While the formation of calculi is pathological the symptom producing process in these cases is usually the inflammation rather than the presence of calculi.

Jaundice.—A peculiarity of these diseases is that we have one sign which is absolutely reliable in pointing to diseases of the bile tracts; namely, jaundice. But while the presence of this sign is positive proof of obstruction to the flow of bile, jaundice alone is a poor guide as to the location or nature of the obstruction, and its absence is no proof that disease of the bile passages does not exist.

A Recent Book on Jaundice.—One of the most recent and up-to-date books upon this subject, published during the present year, introduces a chapter upon jaundice, and in the second paragraph says, "Like albuminuria, it is a symptom and not a disease;" that it is caused by obstruction to the flow of bile; that the cause of the obstruction is the disease and jaundice like pain, fever, etc. is only a symptom. After making this plain, fair and eminently true statement, the author proceeds to introduce sixty-four pages upon the subject of jaundice, in which he discusses its pathology, its varieties, its signs, symptoms and diagnosis. He speaks at length of its prognosis and its treatment, and later takes up the etiology, diagnosis, morbid anatomy and clinical characters of various kinds of jaundice. To one who is really desirous of getting at the truth of diseases of the bile tracts such a mixture of classification savors of ancient history.

The literature of jaundice is voluminous, notwithstanding the fact that it is only a symptom and not the disease. It is the one conspicuous and unmistakable sign of disease of the bile passages and, as a consequence, has been loaded down with the whole weight of diagnostic evidence. It has had so much prominence that it is not surprising that observers have regarded it as the disease rather

than only one important symptom which may be absent even in cases of great severity. We must return to fundamental principles and recognize the fact that jaundice has only one cause—namely, obstruction to the discharge of bile. This obstruction may be multiple from occlusion of the minute bile capillaries as in inflammation of the liver; it may be from multiple calculi in the small hepatic ducts; from a stone in one of the larger hepatic ducts or in the main hepatic ducts; from a stone in the cystic duct or in the common duct. Instead of stone, the obstruction may be from swelling and induration or

these disorders. Pain is often difficult to understand. All are familiar with the pain of hepatic colic.

Pain.—It may vary from slight vague pains in the region of the stomach to the most acute localized colic. Pain is most marked in those cases of obstruction in the common duct, in which dull aching alternates with acute severe pain, coming on suddenly, usually in the right hypochondrium and often shooting up toward the right shoulder, and in severer cases the pain is over the whole abdomen. Of course, if we have severe paroxysms of pain accompanied by chill, sweat-

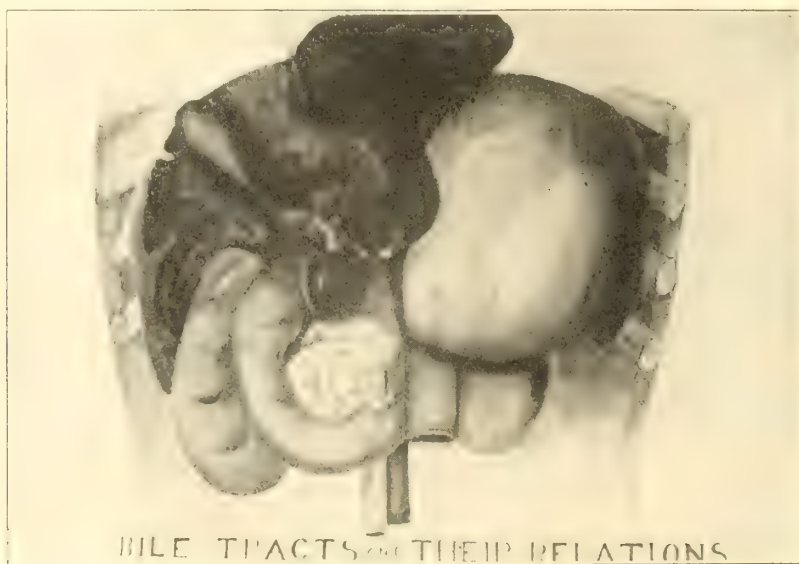


FIGURE II.

Bile Tracts and their relations, showing Gall-Bladder; Bile Tracts; Liver; Right Kidney; Stomach; Duodenum and portion of Pancreas; Spleen and Left Kidney.

mucous plugs or foreign bodies or from pressure from without, but, in all these conditions and locations, the underlying and ultimate cause of jaundice is always the same—obstruction to the flow of bile through the ducts and its resorption into the circulation where it is carried to all parts of the body and discolours by deposit of bile pigment. We will not undertake to discuss the effect of retained bile on the blood and blood vessels although this is very important when considering surgical operation.

Next to gall stones and jaundice, pain has been one of the most important symptoms in

ing and fever, and deepening jaundice, the diagnosis, as far as the bile tract is concerned is plain, but an examination of the histories of operated cases shows that neither jaundice nor pain can alone be relied upon, as a basis for diagnosis.

Pain is frequently entirely absent in suppurative cholangitis, while acute catarrh of the bile passages is not accompanied by pain. In cases accompanied by severe paroxysmal pain, occurring at irregular intervals, beginning in the right hypochondrium and radiating over the whole abdomen and through the right scapular region we can feel reasonably

sure that we have inflammation of the bile passages and that it may be accompanied by gall stones, and that the conditions have given rise to more or less complete obstruction.

Flying Pains.—Flying pains in the limbs are occasionally present in acute catarrh of the bile passages, and in a recent case we have observed pain in the great toes, simulating the pain of gout accompanying a moderately severe catarrh of the bile passages. Occasionally we will see cases in which the pain indicates the presence of gall stones, but the obstruction is caused not by stone, but by thickened and hardened mucus. I have recently operated on such a case.

Pains Simulating Other Disorders.—Pain may be in the pre-cordial region and simulate angina-pectoris, or in the epigastric region, as in gastric ulcer, or it may be low down, as in renal calculus. The pain may be general; it may be between the scapulae, or in the extremities. I have seen a case in which both the pain and tumor were in the region of the appendix, and another with the pain and tumor in the region of the umbilicus, and diagnosed first an omental carcinoma on account of the nodular form of the tumor. We cannot base a diagnosis upon pain alone, but must be guided by the presence or absence of other symptoms which go to make up the differentiation. Pain is an important symptom, but only important in connection with other signs and symptoms.

Three Directions for Micro-organisms to Enter.—In considering the symptomatology of the inflammatory diseases of the bile tracts we must bear in mind that there are three directions through which the organisms of infection may enter.

First, and probably most commonly, they may come through the common duct from the intestinal canal.

Second, through the liver, which receives and takes care of so much of the waste products of the body.

Third, directly through the walls of the gall bladder.

The Bile Tracts.—We have in the bile tracts long, narrow tubes connecting with a closed mucous cavity. These tubes have their

origin in the liver and their exit in the intestinal canal, and may become infected from either direction.

Fever.—The fever in acute catarrh of the bile passages is usually due to the gastrointestinal catarrh, and disappears with it. In the more severe inflammations the fever is continuous and frequently associated with chilliness and rigors. These are more marked after formation of adhesions. While the fever is not characteristic, its presence, ac-

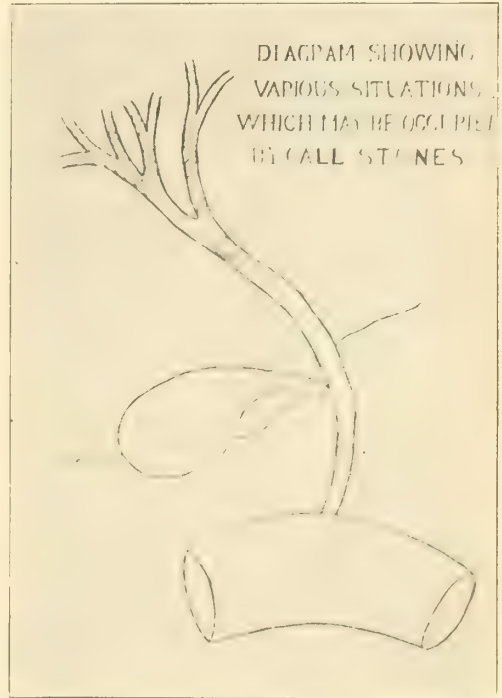


FIGURE. III.

Showing positions in which calculi may be found in the ampulla of Vater; common duct; Cystic Duct; Gall-Bladder; Main Hepatic Duct and small Hepatic Ducts.

companied by chills and rigors, gives an important hint as to the nature of the process.

Mouth Conditions.—A bitter taste in the mouth, the foul breath, and the furred tongue are usually present in acute catarrh of the bile passages. *Loss of Appetite.*—In all the inflammatory diseases loss of appetite is prominent and important and is almost always accompanied by nausea, and, sooner or later, by vomiting. *Vomiting.*—Vomiting is usually present in acute catarrh, and is often a prominent symptom in suppurative cholan-

gitis. The initial symptoms of cholelithiasis are often accompanied by vomiting, which is continuous, and may cause death by exhaustion. It is also a very common symptom of stone in the common duct.

Stomach Symptoms.—Indigestion or dyspepsia, accompanied by loss of appetite, nausea and vomiting, in which a diagnosis of disease of the stomach or of the intestinal canal cannot be made and in which a movable kidney cannot be demonstrated are almost certainly dependent upon some disorder of the bile tract.

In arriving at a diagnosis we should carefully study the diseases and disorders of the gastro-intestinal tract; those from which the patient has suffered in the past as well as those present.

Dyspepsia.—Dyspepsia is frequently present in acute catarrh, or comes on as a sequence of such disorders. It often accompanies cholelithiasis, and is usually associated with chronic cholangitis, which, in most cases, is preceded by gastro-intestinal catarrh.

Gastro-intestinal Catarrh.—Gastro-intestinal catarrh, diarrhoea, and dysentery are exceedingly important factors in the production of the inflammatory diseases, and a careful study of them is of the utmost importance in arriving at a diagnosis. Intestinal worms may be a factor in these diseases.

Enteritis.—On the other hand, a membranous or croupous enteritis is frequently associated with attacks of pain, like gall stone colic or inflammation of the gall ducts and apparently is caused entirely by obstruction to the flow of bile by the inflammation in the intestine at the point of exit of the common duct without any disease of the bile passages.

Malaise.—General malaise is also a prominent feature of inflammation of the bile tracts, suppurative cholecystitis and empyema of the gall bladder prior to ulceration and there is marked prostration. *Loss of Weight.*—Almost all the diseases of the bile passages give rise to loss of weight and they are often accompanied by severe constitutional symptoms, especially where suppuration and septic absorption are present. *Collapse.*—Choleli-

thiasis may lead to collapse and death in a severe attack. Occasionally the catarrhal or suppurative conditions occur during the course of typhoid fever and are caused by the organism of that disease. Such a complication is exceedingly serious.

Constipation.—Most of these diseases are accompanied by chronic constipation, which may, from the accumulation of the feces at the hepatic flexure, interfere with the regular emptying of the gall bladder, or the constipation may be the result of the inflammatory process. *Offensive Stools.*—Fermentation in the intestinal canal is often increased, giving rise to gaseous distention and very offensive stools, while interference with the discharge of the bile into the intestine leads to the characteristic clay colored stools. *Clay Stools.*—Clay stools are coincident with jaundice and arise from the same cause.

Liver Tenderness.—Liver tenderness is very important in connection with diseases of the bile ducts. While in acute catarrh the tenderness is either slight or not present, in suppurative cholangitis and cholecystitis it is very marked. In fact, we believe a more careful palpation of cases complaining of pain in the upper abdomen or indefinite gastro-intestinal symptoms will reveal circumscribed tenderness much oftener than is generally supposed. This tenderness will not be accompanied by swelling or tumor until the ducts are blocked so that the bile is forced back into the gall bladder or liver. *Empyema of Gall Bladder.*—Empyema of the gall bladder will give rise to marked tumor.

Other Diseases.—We should always be on the lookout for the history of other diseases and illnesses. Acute inflammations or infectious fevers, as pneumonia, typhoid fever, appendicitis, or diathetic diseases as gout and syphilis are among those which may be the indirect or occasional cause of acute catarrh or inflammation, while suppurative appendicitis may be the direct cause of a suppurative cholangitis.

Micro-organisms Present.—The character of the inflammation in the gall bladder and ducts is largely determined by the micro-organisms present.

Posture and Position of Patient.—The tendency in the patient to bend toward the right to contract the right rectus and other muscles on the right side, and to draw up the right thigh, and especially if accompanied by a feeling of fullness in the right hypochondrium, are exceedingly suggestive.

Immobility of Abdomen.—Immobility of the abdomen, which is especially marked after local peritonitis, has given rise to adhesions, if accompanied by tenderness on palpation, and dulness on percussion are important facts in arriving at a diagnosis of suppurative cholecystitis or cholangitis, empyema of the gall bladder, or recurrent catarrh of the bile passages with adhesions.

Perforation.—In the catarrhal inflammations there will be no adhesions if gall stones have not been present. In the diagnosis of impacted stones or suppurative inflammations the usual symptoms of peritonitis are present and of great importance.

Adhesions Found.—In the course of these inflammations, and especially those accompanied by suppuration, and more particularly those in which gall stones are present, adhesions to neighboring organs are formed and often give rise to symptoms similar to those of gall stones. Usually where adhesions have formed there is an increase of fever, pain, tenderness, immobility of the abdomen, tympanites and in fact all the symptoms of a localized peritonitis.

Where suppuration is followed by perforation of the gall bladder, symptoms of acute peritonitis develop. Gall stones are usually present in such cases.

Obliteration Inflammatory Congenital.—In the diagnosis and operative treatment of lesions of these parts we must not forget that congenital as well as inflammatory obliteration of the ducts and of the gall bladder occur, and may lead to a futile search on the part of the surgeon who, in his great fear of overlooking a gall-bladder, contracted and covered in by adhesions, greatly prolongs his search.

We must bear in mind that these disorders are very frequently secondary to other diseases, occurring even several years before. A

careful inquiry into the history of such diseases as well as the condition of neighboring organs will give important information and be of material assistance in arriving at a correct diagnosis. It is impossible in the brief time at our disposal to go into the details of these inter-relations.

The one important thing to remember is that the diagnosis will most often depend upon a careful analysis of the symptom complex presented by the patient, including the history of previous illnesses and allied disorders as well as the direct symptoms. He who depends upon the direct symptoms of jaundice, clay stools, and pain for the diagnosis of disease of the bile tracts will overlook more than half the cases requiring surgical treatment and in just so far will fail to bring to his patients that relief to which recent medical progress entitles them.

The surgical treatment of these conditions has two objects. First, to remove foreign bodies—usually in the nature of calculi but occasionally inspissated mucus, parasites, other foreign bodies or new growths. Also to remove new growths or adhesions which are causing obstruction by pressure from without. Second, to secure drainage, which is undoubtedly the most important indication.

Obstruction to these ducts is principally from inflammation and swelling which may or may not be associated with calculi or other foreign bodies. The obstruction may be incomplete, intermittent or complete, but the indications are always the same—drainage must be secured. This is the object which should be sought by rest in bed, and the administration of drugs as well as by surgical interference. We must reduce the swelling and overcome the obstruction in order that these tubes may be restored to a normal condition. All other points in treatment are insignificant compared with the one point of securing drainage, nor is this peculiar to diseases of the bile tracts. It applies equally well to every mucous cavity and mucous tracts of the body. Inflammations and obstructions to the antrum, the sinuses, the mastoid, the bladder, the intestinal canal and

the appendix, etc., cannot be treated successfully without drainage. The inflammatory products must not be allowed to accumulate. The treatment of diseases of the gall tracts, as well as all other mucous cavities, and mucous tracts, will consist of ways and means of establishing and maintaining drainage. The application of this principle has opened up a field of usefulness for surgery which our colleagues of internal medicine must recognize and apply much earlier than is their present habit if we are to give that prompt and permanent relief to which modern progress entitles our patients.

In conclusion it is urged that greater care in diagnosis and earlier operation will greatly shorten the period of suffering, greatly improve the results, both as to complications and mortality and hasten the recovery of our patients, and in case of doubt an early exploration will clear up the diagnosis and enable us to apply correct treatment.

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SURGERY OF THE DUODENUM.*

BY EMERSON M. SUTTON, M. D., PEORIA.

Acute duodenal ulcer is rarely found independent of other diseases. Pain, hematemesis, melaena, perforation, indicate its occurrence. With a case (I) of strangulated inguinal hernia, under our care, these symptoms, less perforation and peritonitis, occurred on the second day following operation, the profuse hemorrhages from the bowel and severe abdominal pain localized to the right and on level with the umbilicus, continuing over four days at intervals. Patient was man of seventy (70), hernia was strangulated five days, operation necessitated making an artificial anus to save time. Recovery promising, till second day, sudden severe pain in abdomen, hemorrhage from bowel, vomiting blood, collapse. Embolic ulcer of the duodenum following laparotomies is mentioned by Mikulicz. This diagnosis was made from the above symptoms and the clot filled intestines, all occurring suddenly. Treatment for hemorrhage, tightly bandaged limbs, gelatin broth by mouth, adrenalin and stimulants resulted in recovery, now three years. Acute hemorrhage of acute primary ulcer is rarely fatal, Fenwick. As the blood pressure is reduced arterial retraction and arrest of bleeding takes place. Patients exhausted from septicemia after erysipelas, or severe burns, may suffer pain in abdomen, with vomiting of blood and bloody stools. The hemorrhage, due to erosion of: 1st, pancreatica duodenal artery; 2d, gastro-epiploica dextra; 3d, pancreatic and portal veins; 4th, aorta; 5th, hepatic artery; 6th, superior mesenteric vein, may be first and only symptom and death the result. Possibilities of surgery are necessarily limited here. Perforation rarely occurs and the tendency to healing under the careful handling is worthy of consideration. Should the patient survive the first hemorrhage and have repeated hemorrhages or in case of acute ulcer with perforation prompt surgical intervention offers a rational hand-

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

ling for just the same reasons that gastric ulcer demands surgery. Uncertainty of diagnosis makes for delay and, outside of large surgical clinics, and even there uncertainty holds until the abdomen is opened, and it remains uncertainty as to cause of death—which results in from 50-68% of these cases, Fenwick. Perforation with peritonitis may be the first symptoms of duodenal ulcer, when diagnosis from other forms of perforation will be well nigh impossible and surgery to be effective must be early in the first twelve hours.

Early diagnosis means early incision, when ulcer of the stomach, cholelithiasis, ulcer of other parts of the intestine and appendicitis can be excluded at once and uncertainty eliminated. This applies likewise to injuries of the duodenum in which the symptoms remain obscure and uncertainty exists in regard to the complications following affections in this region; peritonitis, hemorrhage, perforation, retro-peritoneal abscess, stenosis, peri-duodenitis of the duodenum, pancreatic complications and adhesions. Laboratory methods are positively scientific in helping to diagnose, but are too far outside the seat of war to be effective and the place for the surgeon is where action is taking place. Methods planned before seeing the actual condition to be dealt with are helpful, if time is not lost in planning, (they increase the surgeons resources.) In chronic ulcers it is different. Time is not such a great factor and every means for making exact diagnosis should be exhausted. These cases come late to the surgeon with emaciation added to the other train of symptoms, perhaps gall stones and appendicitis have been eliminated, since the inducements of those diseases to secure recognition are wanting—that is a comparatively easy operation with relatively low mortality and last but not least high fees. The duodenal ulcer goes on unsought and unhealed, also study required. The possibilities of surgery here, before extreme emaciation exists, are naturally better than in the class of acute cases, with complications and although healing by medical handling is possible, given an early diagnosis and proper treatment. Sur-

gical treatment, is necessary by the time the patient consults the surgeon. Ulcer of the duodenum heals with greater difficulty than the ulcer of the stomach, 69% end in perforation, (Hemmeter), and the mortality of operations for perforation stands at 86%, five cases, three deaths, Mayo. For these reasons surgical handling of duodenal ulcer is rational. In arriving at correct diagnosis Graham considers careful case taking the greatest aid coupled with the power to interpret, classify and arrange, and to make correct deductions.

Pain, vomiting, emaciation, hemorrhage and we add ever present anaemia, with later perforation, constitute the clinical signs, which guide us. 60% of 151 cases of duodenal ulcers collected by Perry & Shaw, 53% of a number of cases collected by Cullen failed to exhibit any symptoms of importance prior to fatal hemorrhage or perforation. This applies to acute ulcers more than to chronic, since in chronic cases pain, vomiting, hemorrhage indicate the affection in 74% of the cases according to Fenwick, whose valuable work I am indebted to for the above data. In this study it must be determined whether the ulcer, if ulcer exists, is idiopathic or is associated with other pathogenic conditions, in other words, whether the patients condition is the result of ulcer of the duodenum, or the ulcer is the result of a more serious disease anaemia, etc. Attention is paid to the experiments of showing that ulcer of the stomach could not be produced in dogs, unless the hemoglobin was below normal.

Pain, 70% of the cases most severe when ulcer situated in first part of duodenum and posterior wall, varies from sense of uneasiness to violent prolonged suffering in right hypochondrium or umbilicus, mostly independent of eating, often most severe when stomach is empty. Typical pain come 2½-4 hours after eating solid food, radiates from just below right costal arch over upper abdomen and back, not localized to one spot. Acidity and flatulence may precede and accompany the pain or may have no dyspepsia. Vomiting 20% of the cases, independent of pain. Char-

acter of the vomit depends on degree of stenosis of the bowel due to peri-duodenitis. As rule constipation exists, but may be diarrhoea in 8% of the cases.

Hemorrhage most important sign, 40%.

Hematemesis and melaena together, 20%.

Hematonesis about 20%.

Melaena alone 60%.

Patients may not suspect blood in stool and yet reach verge of death from hemorrhage in the bowel. Blood in stools 40% cases is of greatest importance. Methods of finding visual, Rutherford. If blood in large amounts may be recognized without special tests, but great caution should be exercised in pronouncing the color of the stool as due to blood for many medicines and foods ingested may give the black or red color. If a large hemorrhage takes place from a duodenal ulcer and the blood passes rapidly through the bowels, red blood corpuscles may be found on microscopic examination and so the presence of blood be certain, but for more positive proof Webers modification of the Guaiac, turpentine test should be resorted to. This consists in shaking out part of the stool with 1-3 part of glacial acetic acid, (the glacial acetic changing the haemoglobin to haemitin), removing the haemitin thus formed by gently mixing a small amount of ether with above mixture and allowing the ether to separate the mixture by standing. The ether takes into solution the hemetin and this solution in ether should be removed and tested by freshly prepared tincture of Guaiac and turpentine, when if blood were present in the stool, we will get the blue color, indicative of blood, as anything acting as a catalytic agent will give this reaction, therefore the necessity of extracting the blood with ether.

The spectroscope test is less practical (because few of us possess a spectroscope and less understand how to use it and what the lines mean when we see them.)

Ulcer of the duodenum has the same etiology, symptoms, pathology and sequela as ulcer of the stomach and the treatment is on the same line. Medical treatment should be resorted to first in both diseases and the

result is greater and more satisfactory in acute ulcers than in chronic. While medical treatment, rectal feeding and gradual increase of mouth feeding gives happy results in many cases its futility is too often demonstrated. We, of course, see this very frequently in chronic ulcers of stomach and as ulcer of the duodenum is in all things like ulcer of the stomach it will not be digressing too far from the subject to briefly relate a history and show a specimen of ulcer of stomach which would never be cured by medical treatment.

Case (II). Mrs. H., age .., has had sour stomach, distress amounting to real pain in epigastrium, vomiting of sour fluid and heartburn for about eighteen years. Examination shows peristaltic waves in stomach, and tenderness on pressure in region of pylorus. Rectal feeding resorted to for about two weeks without alteration of the symptoms and then gastroenterostomy — pylorotomy. The specimen removed shows two deep ulcers in region of pylorus the largest of which in the fresh specimen was at least 1 inch in diameter and 2-3 inch deep with terraced edges and firm thick walls of such thickness that healing of the ulcer would be an utter impossibility.

Perforation 53.5%, peritonitis 50.5%, abscess .5% accompanied with same symptoms as perforation of the stomach, vomiting being more frequent. Generally protective adhesions and infiltrations form about the duodenum where ulcer is inclined to perforate, (peri-duodenitis), with formation of lump often mistaken for cancer of pylorus or pancreas.

Should perforation take place without these adhesions the fluid may gravitate toward the pelvis giving rise to diagnosis of appendicitis. 19 out of 51 cases as collected by Moynihan were diagnosed. Perforation with successful protective adhesions gives rise to abscess, which may extend retroperitoneally toward the chest or to the iliac fascia, best reached anteriorly and drained posteriorly.

Case (III). Age twenty-six, married, history good up to present illness, became preg-

nant, vomiting of pregnancy ensued, used abortifacients pills and liquids, and vomiting persisted. Emaciation, pain in abdomen located in umbilical region, small lump palpable to right and above umbilicus. Curettage was made some two weeks before lump was discovered. Vomiting blood with absolute stoppage of the bowel. All foods and water vomited soon after taking, blood in stools, pulse rapid, temperature normal inclined to sub-normal, abdomen retracted. Under two weeks rectal feeding tumor disappeared, but exhaustion and death resulted without patient gaining ability to digest food taken by mouth.

Autopsy. Uterus empty, no peritonitis, abdomen free from pathological findings, stomach deeply congested, no ulceration, wall of duodenum throughout entire length thickened, and mucous membrane inflamed and thickened multiple ulcers of small size existing both on anterior and posterior wall.

Possibilities from gastro-jejunostomy in this case would have offered success if performed early, before extreme emaciation. Cancer pylorus is diagnosis generally made when a tumor such as occurred in Case III is discovered and operation is generally discouraged by physicians whereas incision and inspection would render a correct diagnosis possible and offer relief. What does it matter as to the exact location of the ulcer, stomach or duodenum or part thereof? Operation best meets the difficulty, granting fair trial has been given to medical handling. Ulcer, a loss of tissue with no tendency to heal, excision and covering with healthy tissue would seem to be rational treatment, but we must be content with giving the ulcers physiological rest since excision of ulcer of the duodenum is fraught with greater danger, (Mayo). Sight must not be lost of the possibility of peptic ulcer resulting from the flow of gastric contents into the jejunum as noted by Nothnagle and caution holds us from too hasty decision, and unless decidedly proper medical handling tried early in the case, the comparison of medical and surgical treatment of this affection is out of the question. Difficulties seemingly unsurmountable render diagnosis un-

certain just as in more acute troubles in this region, yet we remember when appendicitis was as difficult to diagnose and do not despair. Familiarity with the pathology of various affections in this region of the abdomen makes it possible to know conditions associated with certain symptoms and until further surgical treatments are reported early incision is the safest method.

THE SURGERY OF THE STOMACH.*

BY ARTHUR DEAN BEVAN, M. D., CHICAGO.

In 1903, I published in the Journal of the American Medical Association, an article entitled, "Surgery of the Stomach," in which I reviewed briefly the history and status of the subject at that time. In the two years which have intervened no great advances have been made, but an enormous volume of work has been done which has enabled us to more accurately estimate the value of various procedures, and more definitely determine the indications for surgical treatment. The value of the surgical treatment of various stomach lesions is being more and more generally recognized by both the surgeon and the general practitioner, and much is being accomplished by proper surgical procedures in well selected cases. With the very rapid development of stomach surgery in the last few years have grown up some evils which should be recognized and guarded against. Of these I shall mention two, which have impressed me. First, the doing of surgical operations which were unnecessary and uncalled for by well-qualified men who were enthusiastic over the success of their stomach work, and who have extended the range of stomach surgery over a much larger area than even its great intrinsic value warrants, some hospital surgeons going so far as to claim all cases admitted to the hospital with stomach troubles as their own, and denying the right of the medical service to any stomach cases whatever. I think that time will show that these men have operated on many cases which

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

should have been handled by medical treatment and not by operation. I have seen cases operated on which I am satisfied would have been much more benefited by a fishing trip or a walking or bicycling tour, or a selected diet and the euthanasia of morphine, than they were by the surgical operation.

I think this excess of enthusiasm for stomach surgery, however, is but a natural sequence of the splendid results that have been obtained in cases where operative interference was really indicated. This fault must be corrected by discovering and applying methods which will enable us to make more refined diagnoses by curbing somewhat our enthusiasm possibly. And, last, and of most value, by cooperating with our brother, the internist, so that the patient may have the benefit of both the medical and the surgical point of view.

The second evil which has impressed me is that in the popularizing of stomach surgery men who are not in any way qualified to undertake this work do undertake it, and operate on cases without any very clear idea of why the operation should be done, but largely because they have seen some prominent surgeon do a gastroenterostomy with McGraw's ligature, or Murphy's button, or with clamp and suture. I asked one of these men once why he had operated on a certain case, and without giving any indication, his reply was that Prof. Blank, of Philadelphia, had done the operation, and he did not see why he shouldn't. There is a bit of danger that in the development of stomach surgery we may witness, on a very much smaller scale, however, what was so common in the development of the surgery of the female genitals, and what still remains the curse of gynecology, i. e., unnecessary, uncalled for, and ill-advised operations in the hands of the competent and enthusiastic, and the entering into this field of men illy qualified, who are led to undertake the work because of the ease of its performance and its demonstrated safety, with little regard for the indications.

In spite of the two evils mentioned, stomach surgery today stands out as the most gratifying surgical field in the process of

rapid development. And this fact, too is perfectly patent that the demonstrated value of surgical procedures in treating stomach lesions warrants a much wider application of such methods than are at present practiced. My plea is that the cases must be most carefully selected; that we must be sure that an operation is strongly indicated. We must not operate on cases that could be cured by a summer's outing or carefully selected diet; nor must we operate where operations are hopeless.

I should like to discuss the surgery of the stomach under two heads:

1. Surgical treatment of carcinoma of the stomach; and
2. The surgical treatment of ulcer and its complications and sequelae.

CARCINOMA.

Cases of carcinoma of the stomach, except those which have progressed to a point where there is no longer any hope either for cure or palliation, are to be regarded as surgical cases, and are to be treated by surgical means. Carcinoma is primarily a local disease; there is a period in the history of every carcinoma when the process is so limited that a wide removal would effect a permanent cure. The truth of this statement is becoming more and more apparent from the encouraging results we are now obtaining in the early and wide removal of carcinoma from more easily accessible regions, such as the breast and the larynx.

We have no medical means which are of service in a curative way in the treatment of carcinoma, and newly-discovered agent, the X-ray, which is being experimented with, has proven reliable only in the most superficially situated cancers, and of little or no value in the deep-seated cases. From our present knowledge, therefore, there is but one way of curing cancer of the stomach, and that is by surgical operation. This fact must be insisted upon because even among the intelligent and well qualified members of our profession there are still to be found many who regard cancer of the stomach as a necessarily fatal disease, and one in which the duty of the physician has been fulfilled when he has

made a diagnosis and advised the usual means of palliation, i. e., special diet, morphine, etc.

What can surgery do for cases of carcinoma of the stomach? It can cure them if the cases are early diagnosed and operated upon at a time when the entire focus of disease can be removed. How many of these cases does surgery cure today? Probably about ten per cent permanently. This percentage would undoubtedly be greatly increased if the general profession accepted the truism that cancer of the stomach is a surgical disease as far as treatment is concerned, and urged their patients to seek surgical relief, as soon as a probable diagnosis of such a condition is made. And, again, undoubtedly the percentage of recoveries will increase in just the proportion that more refined means of diagnosis are discovered which will enable us to discover the existence of cancer of the stomach at an earlier period.

What are the risks of death from the operation itself? Probably about 20 to 25 per cent. This, although great, compares very favorably with the risks due to the continuance of the disease, i. e., 100 per cent. Out of 100 cases operated upon for cancer of the stomach in which the disease is removed by pylorotomy or partial or complete gastrectomy, about 25 die from the operation. Ten are permanently cured, and 65 are given more or less complete relief for various periods of time. Usually this relief is very complete, much more complete than the palliation of special diet and morphine, and even when recurrence takes place the picture is not nearly as distressing as the death from the original condition. I think that I have fairly stated the facts, and although by itself the picture is gloomy, it is roseate with life and hope compared with the picture of utter hopelessness and despair of the 100 cases which have not been given the chance of surgical treatment. The purely palliative operations for cancer of the stomach are not nearly as satisfactory as the operations for the radical removal of the disease. In fact, the most satisfactory of these cases are those in which the operation cures the patient and proves

that he did not have cancer at all, and these cases which are by no means uncommon furnish really the strongest argument for the performance of these palliative operations. There is, however, a certain limited field for those palliative operations, i. e., cases where the pylorus obstruction is marked, where the invasion is so extensive as to make a radical operation impossible, and still where a considerable amount of stomach tissue is free from disease. Here a rapid gastroenterostomy is warranted. Gastroenterostomy for malignant disease carried with it from 10 to 20 per cent of mortality, and in the cases which recover life is prolonged from six weeks to a year. Some of these cases are greatly benefited, gaining from 20 to 40 pounds in weight, and obtaining marked, sometimes complete, relief from former symptoms. The relief obtained is more complete than can be obtained by any other means. The short respite is, however, soon followed by either recurrence of symptoms or gradual exhaustion and death from general carcinosis.

Most of our operations for cancer of the stomach are begun as exploratory operations, and the exact procedure determined upon only after an intimate survey of the parts after opening the peritoneal cavity. Then the operation either results in an attempt at a radical removal, i. e., a partial or complete gastrectomy, when such procedures would remove all the microscopic lesion, or in a gastroenterostomy, where such removal is an impossibility, and, as stated above, the pyloric obstruction is marked, and there still remains most of the stomach uninvolved, or an exploratory where radical operation is out of the question, and where either the pylorus is free or, if obstructed, is accompanied with such a small amount of uninvolved stomach tissue as to make a gastroenterostomy very difficult, or lead one to suppose that the palliation would be but a matter of weeks and not worth the while. I would make a plea for a more general recognition of the fact that surgical treatment of stomach carcinoma is the only treatment to be considered, except in the absolutely hopeless cases. Compared

with all other methods, it is of very great value. Our aim must be to improve our methods of diagnosis, and endeavor to obtain those cases early in the history of the process. Our operations should, for the most part, be either radical removal or purely exploratory in the advanced cases, and not, as now, unfortunately, so largely the palliative operation of gastroenterostomy.

In regard to technique, the operation of pylorectomy or partial, even extensive, gastrectomy in suitable cases presents little difficulty to the surgeon today, thanks to the rather simple and satisfactory methods that have been developed. A carcinoma involving the pyloric end of the stomach is removed in the following steps. The omentum extending from the duodenum and the great curvature of the stomach to the transverse colon is divided for the extent required, after being properly tied off with chain ligature. The omentum extending from the duodenum and lesser curvature of the stomach to the liver is tied off and divided in the same way.

This frees the portion of the stomach and duodenum to be removed, so that large stomach clamps can be applied, two to the duodenum, close together and well beyond the disease, and two also close together on the stomach, very widely beyond the cancer.

A study of the extension of cancer near the pyloric end shows a far greater tendency to invasion of the stomach than of the duodenum, and, as both Mayo and Moynihan have pointed out, this fact demands a much wider removal of the apparently normal tissue on the stomach than on the duodenal side. The duodenum is divided between the clamps and then the stomach in the same way, thus removing widely the disease. The duodenum is closed by invaginating its end with a purse-string suture of silk, and a second purse-string or catgut. The stomach is closed with first a continuous suture of silk through all coats, and then a Lembert of either silk or catgut. The operation is now completed by making an anterior gastroenterostomy between the stomach and a loop of jejunum about fifteen inches from its beginning. This is essentially the second

Billroth method, and is one which is best in almost all cases. Occasionally a carcinoma is so limited to the body that a resection of but part of the stomach wall is indicated, a strictly partial gastrectomy; and a few cases will be found where the lesion is so extensive that a complete gastrectomy must be made. In technique there is little difference between an extensive operation by the second Billroth method, and a complete gastrectomy. In doing a gastroenterostomy for carcinoma, an anterior gastroenterostomy with McGraw ligature or an anastomosis either posterior or anterior, either with Murphy button or suture, can be made. Personally, I think there is not much choice between these methods. I use the suture and prefer it to the mechanical appliances. There can be no doubt but that splendid results have been obtained by the use of Murphy's button, and the McGraw ligature; the advocates of these methods must remember however, that equally good results have been obtained with the suture.

STOMACH ULCER.

The well-known statistics of Welch show that ulcer of the stomach is an exceedingly common disease, occurring in about 5 per cent of the population, almost as frequently as hernia. Post-mortem findings show many more healed than open ulcers. These two facts—the great frequency of stomach ulcer and the usual spontaneous recovery—demonstrate to my mind conclusively the fact that ulcer of the stomach is primarily a medical disease (if we can employ such a term), i. e., a disease which is to be treated by medical and not by surgical methods. The clinical study of cases also demonstrates this fact. It is fair to say that from 75 to 80 per cent of cases are cured by medical treatment. This treatment is essentially one of rest, both general and local; rest in bed, and rest to the stomach by limited bland diet or eventually absolute rest by means of rectal feeding. We can obtain a healing of a stomach ulcer by absolute rest just as we obtain a healing of a varicose ulcer by absolute rest. Many of these patients are very anemic, and need building up, which is best done by change of air, scene and occupation—outdoor exercise,

such as golf, etc. Some of the milder cases will recover under these measures alone, and these means of improving the general condition of the patient should always, if possible, supplement and follow the rest cure employed in the severer cases.

When intelligent medical treatment fails, and the symptoms return, and persist, and the patient is invalided, then and not until then does the uncomplicated stomach ulcer become a surgical problem. The complications and sequelae of stomach ulcer which demand surgical treatment without question are perforation, obstruction of the pylorus, hour-glass contraction of the stomach, and such secondary conditions as perigastric adhesions and abscesses, subphrenic abscess, etc. One of the sequelae which must be considered is that of a carcinoma developing in the ulcer. There can be but little doubt that this does occur very frequently. Fütterer has especially called attention to this fact, and this possible danger is a strong argument in favor of surgical treatment to cure the persistent ulcers. It would seem at first glance that the rational surgical treatment of uncomplicated persistent ulcer would be excision. It has been found, however, that excision is not the best treatment for several reasons. First, stomach ulcer is often multiple, and to excise one might not cure the patient, as others might be overlooked; and, again, not infrequently a duodenal ulcer exists in the same patient. Clinically, it has been found that a gastroenterostomy cures the patient with greater certainty than does excision, and it is apparently not attended by as great risks.

Perforation of a stomach ulcer occurs most frequently in those situated on the anterior wall. The ulcers on the posterior wall and greater and lesser curvatures are more apt to form adhesions with the contiguous organs, as the liver, pancreas, omentum, protecting against perforation, even when the ulcer has involved the entire thickness of the stomach wall. The symptoms of perforation are those of sudden great pain, shock, collapse, etc., which demand immediate surgical interference. A definite diagnosis is not possible in the absence of clear history of the existence of an ulcer, but the symptoms demand an

immediate laparotomy without any hesitation, because although a definite and absolute diagnosis cannot be made between perforation of a stomach ulcer and rupture of the gall-bladder, of the appendix, of an ulcer of the duodenum, or a case of acute pancreatitis, the surgeon is safe in urging an exploration inasmuch as all of the lesions which are capable of producing symptoms such as are produced by perforation of a gastric ulcer demand equally prompt interference.

The great majority of cases of perforation can be saved by early surgical interference. Almost all of the cases not operated upon die. The whole question is one of immediate action. If a perforation is operated on within two hours, the prognosis is excellent. If twenty-four hours go by without surgical relief, but few cases are saved. The technique is exceedingly simple: A mid-line laparotomy, the exposure of the stomach, the finding of the perforation, usually on the anterior wall, the closure with purse-string suture of silk and over this a second purse-string of silk or catgut. No attempt should be made to excise the ulcer. As a rule, the peritoneal cavity is found full of stomach contents. This is washed out with hot saline solution, and the abdomen is closed, if the operation has been done early, without drainage, or a small cigarette drain. If some hours have intervened between perforation and operation, drainage is indicated. If the perforation is in the posterior wall, this is exposed by tearing the omentum between the stomach and colon in an avascular area, turning the posterior wall into view through this opening, finding the perforation, and closing in the same way, flushing, and if drainage is indicated, draining the lesser peritoneal cavity by a stab wound in the left lumbar region. Moynihan, in a recent lecture, published in the *British Medical*, states that of his last 12 cases operated for perforation he has lost but two.

Hemorrhage from stomach ulcer is, as a rule, to be treated by rest and expectant treatment. There are a few cases, a small minority, where it would seem that the pa-

tient's chances of recovery were better than without operation.

Moynihan, who has operated on 22 cases for hemorrhages, divides the cases he has seen with bleeding into four groups:

1. Where the hemorrhage is latent or concealed, is always trivial and often inconspicuous.

2. Where the hemorrhage is intermittent, but in moderate quantity, occurring spontaneously, and with apparent caprice at infrequent intervals. The life of the patient is never in jeopardy from loss of blood though anemia is a persisting symptom.

3. The hemorrhage occurs generally, but not always, after a warning exacerbation of chronic symptoms. It is rapidly repeated, is always abundant, its persistence and excess cause grave peril, and will, if unchecked, be the determining cause of the patient's death.

4. When the hemorrhage is instant, overwhelming and lethal.

Moynihan believes that the conditions found in group three require surgical interference. If possible, a period in which the patient is comparatively free from hemorrhage and symptoms of shock is to be chosen for the operation.

A number of operations have been suggested—ligation of the bleeding point or points, cautery, ligation of the ulcer in mass, excision of the ulcer, and, lastly, gastroenterostomy. The latter has proven to be the safest and most successful procedure.

Of Moynihan's 22 cases, he excised the ulcer alone in one case, this was fatal on the eighth day. He excised the ulcer in three cases, and did a gastroenterostomy at the same time, with one death.

In 18 cases he simply did a gastroenterostomy, which checked the hemorrhage, and cured the patients in all but a single fatal case. It is reasonable to suppose that a gastroenterostomy checks the hemorrhage by stimulating and permitting a contraction of the stomach which checks the hemorrhage in much the same way, that contracting of the uterus checks hemorrhage from that organ.

Pyloric obstruction and dilatation of the stomach furnish by all odds the most satis-

factory groups, as far as the results from surgical treatment are concerned; these cases should practically all be submitted to surgical operation. I know of no more gratifying surgical experience than that furnished by the history of these cases. Taking these poor starved victims of pyloric obstruction, many of whom have lost a third of their weight, and by a comparatively safe and simple operation restore them to health and vigor; I have seen a number of these cases who have gained from 30 to 75 pounds within six months after operation. The operation for benign pyloric obstruction is a properly planned gastroenterostomy. Pyloroplasty, the Heineke-Mikulicz operation, and the exaggerated pyloroplasty of Finney, and the gastroduodenostomy of Kocher may have a limited field, but are not to be regarded as serious competitors of gastroenterostomy as a cure of pyloric obstruction with dilated stomach.

As to the technique of gastroenterostomy, much has been written and much careful study is being given at present to the subject. In my limited time I cannot review this entire subject. I desire to say that I am impressed with this general proposition that the stomach pouch should be drained at its lowest point, and that the opening should be of good size. Whether this is done by suture, by McGraw ligature, or by Murphy's button, I think makes little difference, and whether it is anterior or posterior is also not of much moment.

The ideal operation is the Y-shaped gastro-enterostomy of Roux. The objection to the Roux and similar operations done by Mayo, Crile, and others, is that they take too long a time for their performance, and they carry with them more danger. Taking all facts into consideration, I think that for benign obstruction either a posterior gastroenterostomy with short loop, done as recommended by Moynihan, with clamp and suture, or a very low anterior, anastomosis with a 15 to 20 inch loop, done with clamps and suture, or with McGraw ligature, offer the operation of choice. These simple operations give extremely satisfactory results, both immediate

and permanent. I think fully as good as the more complicated methods.

A few cases of vicious circle, and more or less persistent vomiting and distress will occur, no matter what method is employed. In this connection, I want to call attention to the value of the castor oil treatment in cases of vomiting after gastroenterostomy. I have employed it in half ounce to ounce doses, two or three times a day, for several weeks, in a number of these cases, with marked benefit and permanent relief from the symptoms, and I would recommend its employment.

Gastroenterostomy for benign obstruction of the pylorus should not carry with it a greater mortality than 5%. A mortality which is very small when compared with the dangers of the continuance of the condition itself.

The safety of the operation in benign disease is shown by Moynihan's remarkable series of 153 gastroenterostomies, done mostly with clamp and suture, with but two deaths.

Hour-glass stomach due to cicatricial contraction, due to ulcer, is a condition not infrequently met with. Where the pylorus is free, a plastic agastroplasty uniting the two pouches in one, will suffice, if pyloric obstruction exists, or in cases of great dilatation a gastroenterostomy may also be required. A diagnosis can sometimes be made before operation, but the cases are usually discovered only at the time of opening the abdominal cavity in an operation for supposed pyloric obstruction. Such complications as perigastric abscess, subphrenic abscess, and adhesions are to be treated along the well-known surgical lines of well-planned and efficient drainage and separation of adhesions and restoration of the structures to as near as possible the normal conditions.

The surgery of the stomach has advanced to a point where it can claim recognition alongside of the surgery of the bile tracts, the surgery of the kidneys, the surgery of the appendix, and the surgery of the female genitals, for it has been shown that much can be done by surgical procedures for lesions of the stomach which could not be done by any other means.

In cancer it is our one present hope. In ulcer and its complications it can save lives and restore health and accomplish an enormous amount of good. The surgery of the stomach is advancing. We must keep pace with it, and give to our patients the benefits of its demonstrated possibilities.

Discussion of the Symposium on Surgery of the Stomach.

Dr. Edward H. Ochsner, Chicago: Mr. Chairman—I am sure, we were all impressed with the eminent fairness with which the present status of the surgery of the stomach was discussed this morning. We can all agree with what the essayists said about how things stand in surgery of the stomach today. There is one thing I would call attention to, and that is the fact we are still rather behind in stomach surgery, in spite of the fact that there have been tremendous advances made in the last ten years, and I have the feeling that we are today in stomach surgery where we were ten years ago in appendiceal work. Statistics prove that the results are not as good as we have a right to expect. When we still have a mortality of about five per cent from gastroenterostomies; and when the best surgeons in the country and in Europe still have from ten to twenty per cent of cases which must be reoperated; when we still have a great number of patients who suffer unpleasant symptoms after operation, there is something wrong about all of our methods. It is most interesting, in studying stomach surgery of the last two or three years, to note that all of the great surgeons had a very good operation two or three years ago, an operation attended with little mortality, and with only a few untoward symptoms. It is remarkable, however, that having such good operations they have all changed their methods of operating within the last year or two—every one of them. It means that there is something wrong, and personally I feel that there is something wrong with all of the operations that are employed for gastroenterostomy.

Some two or three years ago we employed an operation that is used by others which we thought was excellent. We had some ten or fifteen cases that did beautifully, without secondary untoward symptoms, without any deaths and consequently without the necessity of reoperation. The first thing we had two or three cases that did badly, that had a vicious circle. One of them had a sudden dilatation of the stomach due to obstruction, and we found there was something wrong with the operation. Other surgeons have had the same experience. All of those cases go to prove that until we have the same results as we have today in appendicitis, there must be some radical change made in our gastroenterostomies. The ordinary patient is entitled to a cure in at least ninety per cent of the cases. He is entitled to the assurance, when he goes on to the operating table, that he has not more than three per cent risk of dying. He is entitled to know that he

will not be subject to too great distress after the operation; that he does not feel miserable for two or three months or possibly until he is re-operated, as is the condition under our present operations, no matter whether it is an anterior or posterior gastroenterostomy, and no matter whether we adopt the long or short route, the Murphy button, the McGraw ligature, or suture.

About two years ago Czerny and Peterson reported very satisfactory results from an operation they performed; but in reading over their list of operations and in studying the records of their cases, it seems to me that the results were not at all satisfactory. They had six or seven per cent mortality; they had twenty per cent of reoperated cases, which is altogether too large. I had a conversation with a prominent surgeon in Berlin a few months ago which illustrates the condition of affairs. I visited his clinic; we discussed the matter of stomach surgery, and I expressed the opinion to him that I have just expressed here. He said to me, "I have good results; I do not have a high mortality." I said to him, "How about the vicious circle and other untoward symptoms that other surgeons get?" He informed me that he did not have them. Within two days I attended his clinic again, when the medical chief of the hospital came in and asked for the chief surgeon. He was very much excited. The first assistant to this surgeon said that the surgeon was not present, and asked what was the matter. "Well," said the medical chief, "Mrs. So-and-So, upon whom you did a gastroenterostomy seven days ago, has been vomiting constantly; I promised her a good result." I think myself that is just about the condition of affairs that most surgeons have to confront once in a while, and until we get an operation that avoids these untoward symptoms and complications, we cannot feel that we are exactly on the right road in doing gastroenterostomy.

Dr. James M. Neef, Chicago: Dr. Murphy's experience has corresponded very closely with that of Dr. Bevan in regard to performing gastroenterostomy in cases of ulceration and of benign stricture of the pylorus. His results have been exceedingly gratifying and almost ideal since he has adopted the short loop Dr. Bevan spoke of, doing posterior gastroenterostomy, with a loop three or four inches in length. All of the cases have gone on to recovery, with the exception of two of ulcer of the stomach in which a posterior gastroenterostomy was performed. In these two healing of the ulcer was not as rapid as we had hoped, for it was necessary to keep the patient in bed on a milk and Carlsbad diet, with regular medicinal treatment two or three weeks after the regular time at which they are allowed to be up. Since Dr. Murphy has been using the short loop, with posterior communication, he has not had trouble with the vicious circle which he had before. He has not had any vicious circle since using the short loop. In place of using a round button or the Kummel modification, he uses an oblong button, which is passed considerably earlier, and up to date there has been no case of retention of the button either in the stomach

or intestinal tract. The button passes usually in from seventeen to twenty-five days after the operation. The reason for this probably is that the transverse diameter is so much less than the diameter of the ordinary round button that it is passed through the opening and into the intestinal tract and out through the bowel at a much earlier period.

Dr. George N. Kreider, Springfield: I congratulate Dr. Bevan on the eminent fairness of his paper. I think it is valuable to the ordinary practitioner, as well as to the general surgeon, to have a man of the experience of Dr. Bevan to make such an honest statement of the difficulties attending the diagnosis, and finally in operating. Dr. Ochsner's statement is also a valuable one, and it seems to me, in order to make progress, it is necessary for us to find out where we stand, then we will have a foundation to work on, as these gentlemen have suggested. Dr. Harris' paper was likewise valuable.

I wish to say a word or two in regard to diseases of the gall-bladder, as it is in this field in which I have had more experience than in the others mentioned, and I wish to mention particularly cases of bile tract disease in which there is or has been tachycardia as a symptom. I have seen several such cases, one of which went on for a long period unrecognized, and apparently only by accident was the cause found in the bile passages. I wish to refer also to a symptom which is not mentioned very often, nor not known by the majority of the profession, namely, itching and burning of the feet of which these patients complain. Dr. Black spoke of pain in the toes, but a large number of these patients suffering from bile tract disease will have itching and burning of the feet. The failures which I have had in operating on these cases have been in those where the disease has existed so long that it is absolutely impossible to get coagulation of the blood. Of course, that is a well-recognized cause, and I mention it in the discussion, so that early diagnosis and early operation may be urged in these cases. And, finally, I will mention those cases in which there appears to be absence of the gall-bladder at the time of the operation.

I saw a case a number of years ago, operated by another surgeon, who had failed to find the gall-bladder which existed in that case. I did not suppose it was possible that the gall-bladder could not be found; but either the patient I operated on last Friday had no gall-bladder, or I was unable to find it, although I searched for over an hour in the region where it ought to be. I found a tablespoonful of pus which was confined, with adhesions of the omentum, in this region, and when I left home the patient was doing very well.

This case in which the gall-bladder actually existed and was not found was interesting, because a year or so after failure to find the gall-bladder the woman was taken with vomiting of blood, and she vomited fifteen gall-stones by the mouth. This is one of the cases which I lost because of absolute failure of the blood to coagulate. We got the woman into the hospital two days after vomiting, kept the foot of the bed

elevated, and waited two days longer before operation was performed, at which 150 other gall-stones were removed from the remains of the gall-bladder, which was not difficult to find, but owing to the failure of the blood to coagulate, the patient died two or three days later.

I think this is one of the most important subjects that can be considered by the surgical section of the Illinois State Medical Society, and aside from the technic of the operation, the dictum should go out that all cases having the classical symptoms, and even those which are not so certain, should be examined and searched for gall-bladder disease. It is much more frequent than we have been led heretofore to believe.

Dr. Robert J. Christie, Quincy: I had not thought of taking part in this discussion, but since Dr. Kreider mentioned failure in finding gall-stones and the gall-bladder in one case, I will relate briefly my own experience. Being only an occasional operator, I have had two cases in which the gall-bladder was not found. One patient was a young woman in the early months of pregnancy supposedly, suffering severely from gall-stone symptoms, and she was recommended or advised to undergo an operation. The usual operative procedures were gone through, and a careful search made for the gall-bladder, but it could not be found. The place where it should have been was easily located, palpated and inspected. It was found that a movable kidney was responsible for her condition, the anchorage of which gave entire relief.

A more perplexing case was one in which I was called to do an operation in a country home, with two assistants, neighboring physicians. The patient was an elderly woman, and the difficulties attending the finding of the gall-bladder were very great. In fact, no gall-bladder could be found. It was entirely absorbed. The perplexities in such cases are great, and it is very annoying to the surgeon to have a circumstance of that kind.

Dr. S. C. Plummer, Chicago: I would like to comment on one remark made by Dr. Black, and that is, the stone may lie latent, not causing any symptoms until it tries to escape, and then jaundice comes on, with other symptoms. There is one location to which an exception should be made, and that is, the stone may, under the neck of the gall-bladder or cystic duct, try to escape, and still not cause any jaundice, but may produce other symptoms.

Dr. J. H. Stealy, Freeport: In regard to jaundice, I will say that a few years ago I looked up the statistics of the number of cases I had operated on, and my recollection is that in only about thirty-three per cent of the cases of gall-stones was jaundice present. I think many times we have cases of gall-stones, with the gall-stones in the gall-bladder, and we do not properly interpret the symptoms. I understood the reader of the paper to say that there was quite a percentage of cases of gall-stones that gave no symptoms. I can hardly agree with that statement; but I believe many times we do not properly interpret these symptoms.

The symptoms are not always as classical as we may think. Many times we may have pain in the region of the kidney which simulates very much a nephritic colic, or we may have pain at the umbilicus, to the left of it, or even in the left epigastrium, all due to gall-stones. Another thing I have found a few times, and that is, I have made an exploration with the view of finding gall-stones, and I found them, but I believe frequently we may have ulceration of the duodenum and we diagnosis the case or cases as gall-stones. Of course, in the diagnosis of duodenal ulcer one of the prominent symptoms is melena; but in some cases I have not always found this symptom. Of course, the stools are tarry.

In regard to malignant growths of the stomach, which were dealt with by Dr. Bevan in his paper, it would seem that his results of recoveries are very flattering. From what little experience I have had in this line, if we have a malignant growth of the stomach, unless it is discovered in the incipient stage, it is a question in my mind whether gastroenterostomy or pylorotomy is really justifiable. I question very much whether a patient would not live just as long if he were let alone.

Dr. M. L. Harris, Chicago: In every paper, such as that presented by the first essayist, the lamentable statement must inevitably be made that the majority of patients affected with carcinoma of the stomach are received into the hands of the surgeon too late to be subject to a radical operation. This is a very lamentable fact. Every surgeon connected with a large hospital is frequently receiving into his service patients whom he knows, the very minute he places his hand on the abdomen and feels a hard nodular mass in the epigastric region, are beyond his help. It emphasizes the statement made by Dr. Bevan that we must have an early diagnosis made. When these cases come to us with a palpable tumor in the abdomen, they are almost invariably beyond radical help. The conclusion to be drawn from this is that these patients should be brought to the surgeon before a mass can be felt; that means that they must be brought to him when the diagnosis is still only probable or presumptive. If we expect to cure carcinoma of the stomach it must be in the very early stages. It is much better that we should perform a dozen or twenty exploratory laparotomies, in order to perfect diagnosis without finding carcinoma, than to allow one case of early carcinoma to go beyond the period when radical operation or cure is possible.

The stomach is perhaps the most tolerant organ in the body. It has always been subject to rough treatment, to the introduction of foreign bodies, and it never rebels unless there is something radically wrong. In every patient, who has reached or passed the middle period of life, who presents symptoms of gastric disturbance, that are not relieved by a reasonable course of medical treatment, he or she should be presumed to have malignant trouble, and should be turned over to the surgeon to perfect that diagnosis by exploratory laparotomy, if necessary, and until

that time is reached our record of operations for carcinoma of the stomach will be a sad history in the annals of surgery.

Dr. P. L. Markley, Rockford: I would like to ask Dr. Bevan to say a few words regarding the diagnosis of carcinoma of the stomach, and tell us when he thinks operation is indicated in those cases in which he is able to effect 10 per cent of cures. I would like to ask him also how long he would wait in cases of gastric ulcer before he would perform gastroenterostomy? It seems to me, it is hard to tell where to draw the line. If we wait a little too long, the patient may not be able to stand the operation, and at the same time we want to give medical treatment a fair trial. I would like to have him say something in that regard.

Dr. Bevan (closing the discussion on his part): In regard to the diagnosis in connection with lesions of the liver and bile tract, there is one point which has impressed me greatly recently, and that is the difficulty in making a differential diagnosis between gall-stones and syphilis of the liver and bile tracts, and carcinoma of the liver and bile tracts, and cholecystitis and cholangitis independently of gall-stones: While I have not become exactly timid about making a definite diagnosis, I must say that I am very much more anxious about making a definite diagnosis of gall-stones now than I used to be, because I have so frequently, upon the basis of the classical picture of gall-stones, made a definite diagnosis, then operated, and found no gall-stones, but carcinoma, or I have found gall-stones and carcinoma, or carcinoma without gall-stones, syphilis of the liver and of the bile tract, or without gall-stones, the gall-bladder a little bit thickened, filled with tarry, thick, viscid bile, without any gall-stones, and without any very gross microscopic evidence of disease, but a cholecystitis which was cured by drainage.

Syphilis of the liver and of the bile tract is one of the most interesting studies in differential diagnosis. I have seen several cases recently, where the picture presented was diagnosed by competent men as one of gall-stone disease, yet where an exploratory operation showed gumma of the liver, where the classical symptoms have been similar in some cases to chills and fever, with a picture of stone in the common duct and in other cases independently of chills and fever, but almost typical of stones in the gall-bladder, yet syphilis found at the time of the operation.

I want to say a word or two in reference to Dr. Harris' paper, particularly with regard to the operation of splenectomy in cases of ruptured spleen and for other conditions. I have employed the S-shaped incision, which I introduced for common duct lesions and in extensive surgery on the gall-bladder for splenectomy in a few cases, and I have found that it worked admirably. (Demonstration of S shaped incision on the blackboard.) One of the difficulties attending splenectomy is that of separating the spleen from the diaphragm, and this incision gives admirable access to the upper portion of the spleen, so that this separation

can be made and give very ample room when the spleen is of large size. In one case of large spleen I extended the incision below the umbilicus, making a rather sweeping muscle-splitting incision in the flank, because the spleen extended down to the anterior superior spine.

One word in regard to operations for splenic anemia. I desire to call attention to the fact that there is great difficulty before an exploratory operation in determining whether the hemorrhage is going to be excessive or not. I operated recently on a case of splenic anemia in which the spleen was very greatly enlarged, and lost the patient from hemorrhage on the table. It was a case in which there were enormous adhesions, it was difficult to separate the spleen, and I thought I should have desisted from the operation, and yet it was one of those cases where we get so far into the operation that it is necessary to complete it in order to save the patient's life.

Dr. Black (closing the discussion): There is only one point I wish to refer to in conclusion, and it is this, that the term gall-stone disease is misleading; that gall-stones are very largely an incident of disease of these tracts, and not the particular feature; that in the majority of cases gall-stones are latent, give rise to no symptoms but when they do give rise to symptoms it is on account of the introduction of the element of infection, and we should keep that plainly in mind, that the element of infection has come into the case usually when gall-stones give rise to symptoms.

THE SURGICAL TREATMENT OF THE BLEEDING ULCER OF THE STOMACH.*

BY CARL BECK, M. D., CHICAGO.

Among the pathological conditions, which have been drawn into the domain of surgery within the last few years, is the ulcer of the stomach. The term ulcer is by no means a pathologic entity, just as little as the term goitre or fungus. It means generally a loss of substance of a surface, either of the epidermis or mucous membrane in an attempt of repair by granulation. But the causes, the extent, and the pathologic significance of an ulceration may be manifold. This also applies to the stomach. A defect of the mucous membrane by any cause, traumatism, chemical destruction of cells, so-called peptic ulcer, tubercular, syphilitic or cancerous ulcer are all included in the term. But for the practical therapeutic

*Read before the Chicago Medical Society June 14, 1905.

purposes, a clear differential diagnosis must be made. Clinically the symptoms of many ulcers may be the same, in fact there is a typical picture of the case of the ulcer of the stomach, which is so classical that if the complex of the symptoms be present, the diagnosis of the ulcer is looked upon as established. Pain and hemorrhage are the two cardinal signs of the ulcer, which if present, simultaneously, almost conclusively establish the diagnosis. For the purpose of treatment, however, differentiation by additional symptoms, which are furnished by the exact chemical test and microscopical examination of the stomach contents, palpation and percussion, to find out the true nature of the ulcer is absolutely necessary.

The object of this paper is not to enter into the discussion of the treatment of the ulcer of the stomach, because such a treatment needs more individualization than most kindred pathologic conditions, but simply to enter into the discussion of the treatment of one symptom, which may require an emergency action, namely, the hemorrhage. In general I would put the question: What shall we do in case of hemorrhage from the stomach, arising from an ulcer, and in particular, what can we do surgically? I shall discuss only the latter exigency.

Hemorrhage is one of the pathologic conditions which may cause death, by the amount of blood lost at one time or by successive losses and their effects upon the organism. Statistics of different authors show clearly that a good percentage of the cases succumb to hemorrhage, though a still larger percentage die from complications or sequelae of the ulcer, like perforation and carcinoma. These latter conditions form a number of indications for surgical interference, and the necessity for operating for chronic, gastric ulcer, is a recognized fact. Mayo has in a classical paper in the *Medical News*, April 1904, designated clearly the indications for operations and methods of operation in chronic gastric ulcer, much in the same manner as Prof. Leube of Wurzburg, and Mikulicz of Breslau did in the

Society of German Surgeons in 1897 and Tuffier in 1902.

Mayo calls the indication gastric drainage and recognizes four main methods of procedure, which have in a large number of cases, given to him excellent results, namely,

- (1.) Heineke-Mikulicz operation.
- (2.) Finneys Gastro-duodenostomy.
- (3.) Rodmans excision with Gastro jejunostomy.
- (4.) Gastrojejunostomy alone.

But most of his cases and most of the cases of the surgeons in general are operated upon, principally, for the pain and the complications of ulcer, perforations and gastric insufficiency.

For active hemorrhage of the stomach, either abundant or foudroyant as the Frenchmen call it, or slow, but continuous, not many operations are done as yet. It seems that the old fear, or rather the feelings of helplessness of the doctor in cases of internal hemorrhages still prevails among many and that some lives are lost, which could otherwise be saved. Some experiences in this regard, prompt me to report a few cases observed within a short period which illustrate this fact clearly. An internal hemorrhage is dreadful only when the source of the bleeding vessel is unknown, especially within the large intestinal tract and when the vessel is of so large a caliber that the hemorrhage exsanguinates the individual before the surgeon can stop it. But fortunately, in the stomach, neither of these circumstances is the rule, inasmuch as the hemorrhage of this part of the digestive tract usually gives clear local symptoms and the vessels which are bleeding are of such a size that it takes at least, some hours to exsanguinate the individual. The symptoms are clear, the pallor, the rapid pulse, the expression of shock, the stomachal distress, vomiting of pure or dark blood, etc., are well known, so that the diagnosis is made even by the tyro in medicine as a rule of the acute foudroyant bleeding.

Something else, of course, is the slow constant flow of blood, the severe anemia, with the intermittent recovery from smaller losses

of blood. Here it requires good clinical experience and some knowledge to make a diagnosis. But if the diagnosis is made, then the main question arises: What shall be done? Heretofore most of the cases are treated medically. It is true, a large number of patients recovers from a single hemorrhage and often from a foudroyant hemorrhage. Every practitioner of some experience has seen a number of instances of recovery from hemorrhage and perhaps all cases in his experience recovered, but there still remains quite a number of cases in which there is no recovery but death. Personally I have seen a number of instances of absolute recovery and no recurrence after one single profuse hemorrhage of the stomach, also a great number of recoveries of slow bleeding, but I have seen some deaths following ulcer from bleeding and one within the last three months. In a short time I have seen three cases of this class, two of which have been operated upon with success, and in the third one operation was refused and exitus followed, within a few hours, but we were permitted to make a post mortem, and I am going to demonstrate the specimen as an illustration of the facts I state in my paper.

Case 1. Mr. T., a tailor came to see me first about 11½ years ago with symptoms of an ulcer of the stomach, pain being the only indicative one without hemorrhage. Leube's treatment of dietetic nature was instituted at the hospital with prompt recovery and after about four weeks hospital care the patient had gained in weight, was absolutely free from symptoms. He kept on improving and feeling well for about six months, then a relapse of the same complex of symptoms brought him back. Again he was placed into the hospital and Leube's treatment instituted, this time he promptly improved again and left the hospital in good condition, free from pain again, normal weight. Just about three months ago suddenly the symptoms appeared again, this time, however, hemorrhage in the form of vomiting of a chocolate colored fluid complicating the case.

The hemorrhage kept up as was clearly seen by the increasing pallor, the dark stools,

the steadily weakening pulse for two days. The patient was at this time at the hospital, watched and prepared for the emergency operation of ulcer of the stomach. On the first day of the hemorrhage toward evening he was seen by Dr. Dodson, who concurred in the diagnosis of bleeding ulcer of the stomach, and advised also operation in case of continued bleeding. The pulse of the patient at this time was rapid and weak, easily compressible. In the morning of the third day it was evident that the bleeding was continuous and from the condition of the pulse it was manifest that the patient could not survive much longer if the hemorrhage was not stopped. We decided, therefore, to do the operation. The stomach was exposed and brought fully forward and outward, and an external examination of the wall by inspection and palpation was made. It revealed at once that the region underneath the smaller curvature in the front wall about one inch from the pylorus was thicker and somewhat discolored, the rest of the stomach wall being normal. After careful and rapid inspection and palpation of the posterior wall and without finding any indication of an ulcer, I clamped the stomach near both orifices to stop all bleeding, incised the stomach by a transverse cut of about two inches underneath the infiltrated area. The stomach was filled with fresh liquid blood, which seemed to have come from a longitudinal, somewhat irregular, deep ulcer within the folds of the prepyloric region. No bleeding vessel was visible. The ulcer was therefore, excised parallel to the incision. Temporarily one of the clamps was loosened and immediately a profuse bleeding started from the ulceration. After excision of the ulcer, the mucous membrane, muscular coats and peritoneum were sutured in vertical direction, thus enlarging the pyloric end instead of diminishing it by suture. I made no gastroenterostomy for this same reason and also for the reason of preventing secondary peptic ulcer as it has been described by Koerte, Steinthal and others in such cases.

The recovery was uneventful and prompt, and I exhibit this case here. He has since

gained much in weight and is in perfect health.

Case 2. It so happened that Dr. B. who witnessed the operation, told me that he had a case of a man in whom he suspected an ulcer though the case had never been bleeding, but who presented otherwise quite characteristic symptoms of the disease. Just two days afterward this patient came to the hospital and inasmuch, as he looked very pale, had a rapid pulse and suffered from gastralgia, Dr. B. kept him there. When I saw the man with him the next morning, his condition had changed. Dr. B. told me that the man had vomited black material, he was pale, restless, his stomach was enormously dilated and tender, he had all the signs of a foudroyant bleeding of his stomach. His pulse was good though rapid at this time, changeable in volume. I advised immediate operation, but inasmuch as experience had shown to Dr. B. that many ulcers stop bleeding, he was inclined to postpone the operation until the patient recovered from the shock of the hemorrhage. We finally agreed to consult with another surgeon, who also thought that the hemorrhage might subside. I was thoroughly satisfied that an operation was inevitable. This consultation was at 10 A. M., at about 7 P. M. the man died. By courtesy of Dr. B. I show you the specimen which is a very characteristic one. A deep ulcer through the entire wall of the stomach, had produced adhesions to the pancreas and the artery is open looking, with its large lumen into the stomach cavity. Nothing short of a resection of the stomach wall, ligation of this artery and eventually a stomach plastic as Jedlicka advises in his paper on ulcer of the stomach in the *stornik-ceskych-lekaru* would have saved this patient.

Case 3. Two weeks ago I saw with my brother, Dr. Emil Beck and Dr. Westerschulte, a case of a man of about 45 years, showing distinct signs of hemorrhage from the stomach. Vomiting of chocolate colored fluid, continuous increasing weakness, pallor, rapid compressible pulse, dark stools, everything indicated an ulcer, but his age, his emaciation suggested the possibility of car-

cinoma. Palpation, however, revealed no tumor. Two days he was at the hospital and the observation pointed clearly to a continuous, though not a foudroyant bleeding. There was no possibility of stopping the hemorrhage except surgically, every other means being exhausted. Consequently an operation was advised and carried out by my brother and Dr. Westerschulte. The technique began in the same manner as case I, but on examination it was found that the induration and a number of enlarged glands extended all along the small curvature, consequently after clamping the stomach a resection of the middle portion of the same was made with quite a difficulty, the glands extending clear up near the cardia, and a gastrojejunostomy retrocolica was made by suture. The specimen showed clearly a typical round infiltrated ulcer with the small artery, a branch of the artery of the small curvature in the center. The man is making a fine recovery, gaining in strength daily.

These were cases in which an operation was undertaken for hemostasis. I did not mention any case of ulcer operated upon for other reasons, pain sequelae etc., inasmuch as this class of cases forms a special group with special indications. From observation and from studying the views of other surgeons I would formulate the indications for a surgical procedure in hemorrhage as follows:

(1) A first hemorrhage of a previously healthy individual, while in most cases healing by medical treatment, requires careful watching, if prolonged and if the pulse indicates an arterial hemorrhage, must be operated.

(2) A first hemorrhage of a previously suffering patient if profuse or prolonged ought to be operated upon at once or shortly after the patient recuperates, as it will keep on bleeding and certainly will invite complications.

(3) A continuous slight bleeding with marked influence upon the patient as anemia, weakness, etc., is a clear indication for surgical interference. A great deal of tact and individual discrimination will be necessary

on the part of the surgeon to determine the indication, but judging from the results on one side being most unfavorable and from the result on the other being very favorable, I should say that we may operate rather too often just as in the case of appendicitis. With all this, however, the number of cases of this kind will be limited, but taking in consideration the broad indications for the operative procedure in cases of chronic gastric ulcer, stipulated even by a conservative medical man like Leube, many forms of chronic and the bleeding ulcer will gradually pass into the domain of the surgeon.

The technique is a very important phase of the question. It will greatly decide the success and I believe that by applying the principle of temporary clamping of all circulation and opening freely the stomach we may thoroughly examine the inside of the stomach and make all resections and sutures like in a limb by using Essmarch's compression. An ulcer will be easily visible if not palpable and cases like some of the literature where the surgeon had to resort to gastroenterostomy without finding the ulcer, will be rarer. The operation par excellence will remain, the excision of the ulcer without gastroenterostomy, if possible, as is also pointed out by Jedlicka in his report of some 70 cases from Maydl's clinic. Of course, in a case of resection so large, like in our third case, it is impossible to make a plastic of the stomach, but for many cases a flap operation similar to flap operations on the skin, will be possible for simple ulcer of the stomach. Besides the prolongation of the operation the gastroenterostomy in cases of ulcerations while primarily giving good drainage has given cause or we may say without prejudice has been associated with secondary peptic ulcers in the neighborhood of the anastomosis as cases of Koerte, Steinthal and others have shown post-mortem.

The operation of choice therefore ought to be the excision with or without gastroplasty.

Discussion on the paper of Dr. Carl Beck.

Dr. William Fuller: I think from the paper Dr. Beck has read us tonight we can draw two valuable lessons. The first is, that gastric ulcer treated medically is a very dangerous thing. The second lesson is that gastric ulcer is amenable to and curable by surgical intervention.

Personally, the more I see of gastric ulcer, and the more I learn about it, the more I am convinced that it is totally without a medical side.

It must be remembered that the rather high mortality ascribed to operations in gastric ulcer are taken from a class of cases which have been treated medically for months and years, and which have reached a serious complication of some kind, necessitating frequently immediate surgical effort. It is manifestly unfair to assign a mortality thus obtained to surgery, because an operation in competent hands under circumstances such as exists in all cases prior to complications, would greatly reduce the death rate. I see no justification for the assumption on the part of the physician that a case is in reality improving under medicinal measures, merely because the symptoms which characterize this condition, are in abeyance; this is the condition in which the so-called latent ulcer exists, and which often, without warning, perforates or gives rise to serious hematemesis, which may, and frequently does, end the patient's life.

You will recall the case of the tailor mentioned by Dr. Beck, in which medical treatment was instituted on two or three occasions, and which each time was followed by apparent improvement, but it became suddenly necessary to use means of a radical nature which saved his patient's life. All of these cases should be operated just as Dr. Beck did this case, as soon as the diagnosis is made.

Let me say a word or two with reference to the manner of dealing directly with gastric ulcer. I would emphasize all that Dr. Beck has said relative to excision of the ulcer. I believe the ulcer should be excised when feasible for two reasons:

First, because it rids that patient of a dangerous lesion. The next is that, as Moynahan has shown, as high as sixty per cent of carcinomas of the stomach are preceded by gastric ulcer. What I have tried to say is exemplified by the case shown by Dr. Beck and by the last case of gastric ulcer which it was my privilege to operate. The patient was a woman 30 years old; she had suffered some time, and had had several gastric hemorrhages. Several physicians saw her in consultation, and as the internists predominated in number their advice was carried out; under the medical treatment, she greatly improved in every way; the pains ceased, the vomiting of blood was not again seen, and the patient gained several pounds in weight. This apparent improvement went on for a whole year, and at the end of this time and without the least warning, she was suddenly seized with furious bleeding from the stomach, which was vomited in large clots, as well as fresh blood, which did not show any signs of ceasing.

On the second day after her first attack of hematemesis I operated this patient, which is now about one year ago. When the stomach was exposed there was nothing either by palpation or inspection that seemed to indicate that there was an ulcer in the stomach. A long transverse incision laid the stomach well open

so that an excellent view could be had of the interior of the organ; on the posterior wall and close to the pylorus was an ulcer about the size of a 5-cent piece which appeared to have almost healed; this ulcer was excised, and the opening was closed with two rows of Lembert sutures. About an inch from this was another ulcer looking somewhat like the one just mentioned, and it was treated in exactly the same manner. A third ulcer was found much higher on the posterior wall than the last, and looked much more like the one from which the hemorrhage had originated. This ulcer was picked up with forceps and a ligature was thrown around its base, and on the out side of the stomach just at the point of the ligature a mattress suture was placed. On the anterior wall of the stomach two or three erosions appeared which would bleed when even touched with the sponge.

The convalescence was short in this case, no more pain was complained of and there was no more vomiting of blood; the appetite quickly returned and the patient took on flesh from the start. She has till now, which is just one year, remained perfectly well.

Dr. Victor J. Baccus: I wish to testify to the value of immediate surgical interference in one case of gastric ulcer which I was called upon to treat a year ago. The case was one of acute perforation in a patient who had suffered from ulcer, but who did not have the classical symptoms. I was called about four o'clock in the afternoon to see a man apparently in good health; he weighed 160 pounds; his height was five feet, eight inches. The history given was this:

He was taken suddenly one morning with an acute pain which extended over the abdomen, followed by vomiting. As the man was suffering extreme pain, it was impossible to obtain anything in regard to his previous history, with the exception that he had suffered a year or two previous to this from acute appendicitis. The general symptoms, aside from vomiting, were a pulse of 120, temperature of 101 degrees, rigidity of the abdominal wall, with greatest tenderness over the region of the appendix. Recognizing the seriousness of his condition, I had him at once removed to the Policlinic Hospital. Previous to operation the differential diagnoses were taken in consideration as follows: Acute pancreatitis; acute gangrenous appendicitis; intestinal perforation, and possibly gastric ulcer. The abdomen was opened over the region of the appendix, and as I opened the peritoneum there was an escape of fluid which resembled somewhat a mixture of milk and stomach contents.

At about the same time, carrying my fingers over the region of the appendix, a healthy appendix appeared. This was left alone. The exudate was removed. Before proceeding any further toward exploration, it occurred to me that I might use a forceps armed with a sponge and carry it in various directions into the abdominal cavity, with the object of locating the origin of this strange exudate, and when it was carried toward the gall-bladder region, it became saturated with bile. I covered the appendiceal region with sponges, made an incision in the mid-

cle of the right rectus, explored the region of the gall-bladder, which was negative, also the region of the duodenum, which was also negative. On devoting my attention to an examination of the stomach, an opening was found, situated about half an inch from the lesser curvature, and an inch and a half from the pylorus through which escaped the stomach contents with each inspiration. This ulcer was excised and the wound closed with a double row of Lembert sutures, drainage instituted, followed by a perfect recovery. The after-treatment consisted simply of rectal feeding for three weeks.

PARENCHYMATOUS KERATITIS. IRIDO-CHOROIDAL FORMS WITH LOSS OF BOTH EYES.*

BY CHAS. H. BROBST, M. D., PEORIA.

My reason for presenting a paper on the subject of Parenchymatous Keratitis is, that it is a disease which occurs quite frequently, and interests the physician who is engaged in general practice quite as much as the ophthalmologist, from the fact that many of these cases are first seen by the former.

Clinicians and writers on the subject of interstitial keratitis almost unanimously agree that this eye affliction almost invariably results in a cure with the possible exception of a few small opaque spots remaining on the cornea, but unfortunately we can't all boast of such glowing results as I may demonstrate later on.

Parenchymatous Keratitis—is also known as interstitial keratitis and deep diffused keratitis. It is a rather frequent disease, having as its prototype deep non-suppurative keratitis. I shall confine my remarks principally to one particular type of this disease which is the Irido-Choroidal form which has proved to be a great deal more dangerous to the impairment of sight and even destructive to the eye itself than one is led to believe through reading current literature on the subject.

Whatever the etiological factors in this disease may be, it is true that the greater majority of cases start out in a mild form, a grayish discoloration appears in the periphery or in some other part of the cornea.

This change of color soon spreads over the entire corneal membrane which is infiltrated

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

and its surface dulled throughout. At first the infiltration is translucent, like that seen in oedema of the cornea; it then thickens and becomes of a grayish tint, which deepens until the iris is almost or quite obscured from view. Vision is greatly diminished and may be reduced to mere perception of light. There is typical ciliary injection usually without congestion of the conjunctiva, extreme congestion of the iris is always present and finally develops into an iritis and iridocyclitis.

Some of these cases before they come into the services of the ophthalmologist, have passed through these various stages of development until we have the Irido-Choroidal form which usually results in greatly diminished vision or the loss of sight entirely, the result of exudative deposit on the posterior of the cornea.

Very often when the affection is of long standing, evident phenomena of cyclitis and choroiditis are observed. Chief among these may be mentioned the slaty shade of the sclerotic around the cornea, which is so characteristic of chronic cyclitis.

Sometimes the sclerotic is infiltrated quite as much as it is in scleritis. Subsequently ciliary or intercalary staphylomata may supervene when, in consequence of posterior synechia, the eye has become glaucomatous.

The corneal inflammation may be so hidden that the condition is spoken of as one of irido-choroiditis. Fortunately it is comparatively rare that this extreme type of interstitial keratitis comes under our observation and when it does it is usually in cases which were somewhat neglected in the earlier stages of the diseases. That is, if the disease has progressed for sometime without the proper use of mydriatics and other therapeutic interventions fitting the case; however these errors are usually brought about in failing to recognize the real type of the disease.

Michel, in this connection, distinguishes two forms of parenchymatous keratitis; in the one, the disease commences with the corneal affection; in the other, the corneal affection is absolutely secondary and consequent upon the uveal tract.

This latter type of the disease I have observed in six different cases; five of these cases proved to be very obstinate and protracted through the entire course of treatment, which averaged one year and a half year for each case until all traces of inflammation had subsided and with an average vision of 60%. A slight amount of corneal infiltration was noticeable in three cases four years after the inception of the disease.

The etiological factor which played such a role in these five cases of the Irido-Choroidal forms of parenchymatous keratitis was hereditary syphilis; this I have found to be the case in about 70% of all the cases of interstitial keratitis that have come under my observation or rather that I have kept record of in the last fifteen years.

Then next in frequency is scrofula or a strumous condition and this may be in a great many instances a hereditary taint from tubercular parents or a specific condition handed down for possibly two or three generations.

I shall take up the history and progress of one of the six cases of Irido-Choroidal form of interstitial keratitis from the fact that its interest lies in the loss of both eyes of a young woman twenty years of age who came into my service September 12, 1903. I was informed by the patient that three years previous, her left eye had been removed after suffering with it for almost four years from a disease that had commenced exactly as her right eye was beginning now. There was some injection of the conjunctiva around the corneal margin, a slight dilation of the pupil, tension normal, some photophobia and a perfectly clear cornea. The patient also stated that the enucleated eye through the course of its disease was always very much influenced for the worse during the menstrual period.

The patient was sent to the hospital and in four days time I noticed the first signs of an interstitial keratitis, being exactly two weeks, after the period of inception of the disease. The cornea gradually became clouded as the irido-choroiditis developed, which was very slow in its progress but sure in its destructiveness. The history of this

case never shed any light on any etiological factors that might play a role whereby one might be guided in his treatment, and with the disastrous results obtained in the left eye at the hands of a most competent ophthalmologist, the eventual results could be easily apprehended.

I concluded that the etiology resolved itself into three primary factors namely, Tuberculosis, Rheumatism and Hereditary Syphilis.

The pulse rate averaged between 60 and 65 per minute and temperature 98 degrees. In giving the patient the tuberculin test she was placed in bed and the temperature taken in the rectum every three hours, at seven o'clock A. M. it was 97.4 degrees and at seven o'clock P. M. 98.2.

Two tests were given forty-eight hours apart, after the first test the temperature arose to 98.6 and after the second test the temperature was 98.8 degrees and with the absence of all other tubercular symptoms I formed the conclusion that I had to deal with either rheumatism or hereditary syphilis.

As we may notice the pulse rate was very slow, 65 per minute it being more frequent only on one occasion when it was 72 per minute right subsequent to the first injection of tuberculine and in fifteen hours it fell again to 65 beats.

After giving Salicylate of Soda a thorough trial in increased doses for six weeks until the patient was taking four grms. every four hours and with hypodermic injections of pylocarpine and hot packs to produce diaphoreses, I however noticed no improvement in the eye. Potassium Iodide was then given in increased doses until the patient was taking six grms. three times a day without producing any beneficial effect on the disease or manifesting any evidence at all of taking the drug.

The local treatment throughout this time consisted of application of leeches on the temple, hot and cold applications, instillation of atropine, subconjunctival injections of salt solution and solution of cyanide of Mercury one to one-thousandth with cocain added, but due to the congested and inflamed

state of the conjunctiva these injections were always very painful.

Cocain seemed to have very little effect as a local anaesthetic under these conditions. The cornea was now quite opaque, the pupil about one-half dilated and some adhesions of the iris to the lens capsule and there was beginning of exudative deposit in the anterior chamber.

The patient was under constant treatment and observation ten weeks without the eye being in the least benefited. It was also evident that no benefit whatever had been derived from any therapeutic agent which had been administered per os.

The hypodermic method of administration was now adopted by injecting 0.006-1-10 gr. of cyanide of mercury in to the gluteal regions every twenty-four hours until ptialism was established which manifested itself after the fifth injection. This method of medication must have wrought metabolic changes in the economy which other remedies were incapable of, where the alimentary canal was called upon to perform its function in assimilating the drug. The result of this treatment was a steady improvement in the eye, pain diminished, congestion and inflammation subsided, the cornea cleared up to the extent that the patient was able to find her way about the streets.

The injections of cyanide of mercury were kept up at longer or shorter intervals for over six months with reasonably good prospects of having stayed the progress of the disease and during the period of eight months the approach of the menstrual period provoked no untoward symptoms in the eye as had been the case before she received the mercury treatment.

The pulse rate now was about 80 per minute and the temperature 98.6, appetite good and bowels regular.

In October 1904, the patient waked up early in the morning with a pain, some congestion and about plus I tension in the eyeball and steadily increased in tension with a corresponding augmentation of pain.

This secondary glaucoma was the sequence of a disease of the uveal tract which had manifested itself in an interstitial keratitis

in the earlier stages of the disease, and was rather of an insidious type in the latter stages of its duration which was over one year until glaucoma manifested itself.

I am also confident that it is a mistake to wait for surgical interference until it is indicated in this class of cases by manifestation of secondary glaucoma following iridic adhesions and exudative deposits.

If iridectomy is to accomplish anything it must be performed early in the disease before iridic adhesions have taken place or before an advanced irido-choroiditis had a chance to develop.

On several occasions I have performed iridectomy in the very beginning of the irido-choroidal form of parenchymatous-keratitis with excellent results.

In summing up this case we find several interesting features relating to it, which are, subnormal temperature from 1 to 1.5 degrees and very slow rate of pulse.

The therapeutic agents which were administered per mouth such as salicylates, mercury and potassium iodide bore no influence on the disease whatever. Subconjunctival injections of mercury and salt solutions had no beneficial affect on the eye until after the constitutional results of Mercury had been attained by deep hypodermic injections.

A sudden development of a secondary glaucoma after the eye had been doing well for six months. The destruction of both eyes four years apart in a similar way. And while the history and all other symptoms were negative, this was undoubtedly a case of hereditary syphilis.

THE CLIMATIC TREATMENT OF TUBERCULOSIS WITH SPECIAL REFERENCE TO COLORADO.*

BY CLARENCE L. WHEATON, M. D., CHICAGO.

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It was never designed that in premature decay the existence of man should be con-

sumed, and that from the stage of life he should pass away at a time when everything about him, his aspirations and his hopes pointed to the future and to the activity of being. This, it would seem, is too often the destiny of the unfortunate afflicted with tuberculosis. These individuals have in most instances reached maturity; they are frequently people of brilliant intellect, and decidedly valuable citizens to the community in which they reside, and their death is quite often a public calamity. In the last Census year 109,750 persons died of pulmonary tuberculosis; of these 71,040 were between the ages of fifteen and fifty years; between the ages of twenty and thirty years there were 31,042 deaths. We may well avail ourselves of all remedial agents capable of arresting this disease, whether climatic or medicinal, and we have reason to insist that laws relating to hygienic and sanitary measures be enacted and enforced by the municipality and state, and that the poor afflicted with tuberculosis be properly cared for in state sanatoria situated in a climatic zone from which the greatest possible benefit may be derived, that they may be cured of their disease and returned to the commonwealth from whence they came physically capacitated for labor.

It is generally conceded that pure air stands at the head of all remedial agents capable of arresting the disease. Medical climatology has, therefore, come to play an important role in the affairs of those men who treat tuberculosis. The pendulum of professional opinion relative to the value of the arid regions as a place of residence for the tubercular seems to have swung within recent years in a far opposite direction. Men of recognized ability and wide experience tell us that life in the open air at home will arrest the disease. Flick has stated that "tuberculosis can be successfully treated anywhere; climate has practically nothing to do with the matter. Formerly climate was looked upon as the most important factor in the production of tuberculosis, consequently it was looked upon as the most important factor in the treatment; for many men it is difficult even at the present time

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

to give up these ideas." We recognize the fact that in Illinois it has been demonstrated by practical tests, notably at the Ottawa tent colony, that life in the open air and sunshine, proper food, well regulated diet, carefully disciplined conduct, has resulted in the arrest of the disease in many cases, and I understand that these cures accomplished in the home climate in which the patients remain are more lasting and more assured than when cures have been attained by temporary residence elsewhere. The climate of the arid regions contrast to such an extent with that of our own state that the necessity for advancing arguments relative to their respective merits is not apparent.

Four years residence in Colorado, the great Mecca for the tuberculous in this country, and a careful study of conditions as they are presented to the health seeker in Arizona and New Mexico, have more than ever convinced me of the fact that we must by determined effort and honest endeavor on our part solve the tuberculosis problems at home. The mass of the afflicted element are not well enough equipped financially to take long journeys to distant states endeavoring to seek a more favorable climate. Financially embarrassed, weak and enfeebled by disease, they soon become a charge upon the county until death, their only friend, claims them. In prescribing climate to those afflicted with tuberculosis the greatest care and discretion must be exercised. As the able surgeon knows well his anatomy, so the medical adviser should be acquainted with meteorological facts and climatic data relative to a given health resort. An ideal climate for the tubercular would appear to be one possessing the greatest possible amount of sunshine, a mild climate, a pure dry atmosphere, light winds, and porous soil, with elevation sufficient to increase the respiratory act in depth and vigor.

Colorado partially fulfills those requirements, constituting an ideal climate.

The Signal Service has contributed from time to time its reports of this region, and they are all of scientific exactness and worthy of study by those residents of less favored regions. The winter temperature,

about 30° F., approximates Topeka, Kansas, Kansas City, Boston, Springfield, and New York City, the mean winter temperature of St. Louis, Cincinnati, Washington, and Baltimore is 5° higher; yet Colorado is noticeably mild, as compared to these cities. The hourly wind velocity, covering ten years' observations, is reported less than seven miles per hour.

We attribute this mildness to dryness and diathermancy; sunshine and diathermancy are very noticeable to the early resident of Colorado.

All students of climatology recognize the germ-destroying power of sun light, its power to destroy tubercle bacilli, and the utilization of the violet rays of light, notably by Kime of this country, is an argument as to the value of sun light in the arrest of tuberculosis. Furthermore, the mental effect of sunshine can not be overlooked, such as promoting a cheerfulness of disposition and repose of mind in those compelled to live an out-of-door life.

Atmospheric clearness and transparency, the so-called diathermancy, is a test of purity. Dennison in his Colorado observations of 1876 proved that it steadily increases with elevation by consecutive thermometric observations of the sun's influence at different heights and near sea-level, and under conditions calculated to exclude radiation. He found that for each rise of about 235 feet, there is one degree F. greater difference in temperature between sun and shade at 2 P. M., as shown by metallic thermometers. This increasing purity of the air, the absence of dust and smoke, or of moisture, with its attendant infusoria, is a decided feature of elevation. Tyndal is quoted as having shown that each higher successive stratum contains less and less of infusoria. Meguel, of Paris, found the same until with rise in elevation the number of bacteria in ten cubic meters of space was reduced from 55,000 in the Rue de Rivoli, Paris, and 7,600 in the park of Montsouris, near by, to 600, 85 and 8, respectively; in a hotel at Thums, 560 meters elevation in its environs, while at 2,000-4,000 meters high there were none.

Dennison's conclusions are that purity goes with dryness, coldness, and rarefaction of the air incident to elevation. There are on the average three hundred days of sunshine during the year in Colorado; on the eastern slope of the rockies, there is a tract of land 280 miles long, extending from Wyoming on the north to New Mexico on the south, in which are located the cities of Denver, Colorado Springs, Manitou, Pueblo, Trinidad, Boulder, Golden, Fort Collins, Greeley, Canon City, and other smaller towns of the State. The sun shines for about seventy out of every one hundred hours that it is above the horizon. At Denver, which may be recognized in many respects as typical of the entire eastern slope of the rockies, the average annual precipitation of rain and snow is fourteen inches; the relative humidity is for the winter, 57; spring, 56; summer, 51; autumn, 50.

The city of Denver lies within twenty-five miles of the rockies, at an elevation of approximately a mile above the sea; its present population is 175,000; the city is modern in every respect, and its many palatial homes and public buildings, its well paved streets, and their freedom from filth, are features that soon become noticeable to the most careless observer.

The large hospitals, such as St. Joseph's, St. Anthony's, St. Luke's and Mercy hospital, compare favorably with similar institutions in New York and Chicago. These institutions, however, do not receive tubercular patients. The following are equipped for the care of the pulmonary invalid: National Jewish hospital for consumptives, 90 beds; Y. M. C. A. Health Farm, 45 beds; Agnes Memorial Sanatorium, 150 beds; Rest Haven Home for Consumptives, 50 beds; Mrs. Lares Tent Colony, tents are here erected as patients are received; Glocknor Sanatorium, at Colorado Springs, 80 beds; Emma Booth Tucker Memorial Sanatorium, at Amity, Colorado, conducted by the Salvation Army, 100 beds; Colorado Sanatorium at Boulder; Fox Hall, at Denver, a private sanatorium conducted by Dr. Beggs; Rocky Mountain Industrial Sanatorium at Wellington Lake; Ballard Sanatorium at Pueblo;

Tented City, near Denver, conducted by the Jewish Consumptive Relief Society. "The Home" for Consumptives at Denver is doubtless one of the most thoroughly equipped institutions of its kind in this country. Here every comfort is provided, for the pulmonary invalid cases of early infection do not mingle with those cases more advanced, and every effort seems to have been made to improve the surroundings and make cheerful the daily life of a small army of sufferers who reside at this institution. This sanatorium, until quite recently, offered the only comfortable home for the invalid who journeyed to Denver, and it should ever remain a monument to its founder, the Rev. Frederick Oakes.

There are many scattered tent colonies and smaller institutions throughout the State, many of them in the hands of responsible persons, others designed to fleece the invalid. The facilities throughout the State are on the whole good for caring for the invalid.

I believe that an unwarrantable fear exists in the minds of many medical men as to the effect of altitude upon those individuals who have long been accustomed to a residence at a lower elevation than 5,000 feet. Patients sent to Colorado usually experience an increase in the rapidity and energy of the heart's action; this is usually accompanied by a lowering of the blood pressure. The respiratory act is increased in depth and vigor; thus more lung tissue becomes aerated, and the expansion of the chest increases, a process of compensation occurs, and the pulse and respiration return to normal.

Dr. Kahn, of Leadville, in 1902, reported his observations on the pulse and respirations at an altitude of 10,200 feet, as follows: One hundred cases examined, 83 men, 17 women, average pulse 76.5; average respirations, 20.48. Average age, 83 men, 32.97 years, average pulse 76.36; average respiration 20.28. Average age, 17 women, 26.39 years; average pulse, 77.17; average respiration, 21.41. The youngest woman was 18 years of age, the eldest was 45. The youngest man was 19; the eldest man was 64. The lowest pulse was 60, in a man of 29; the lowest respiration was 15, in a man of 25;

the highest pulse was 92, in a man of 21, and in a man of 45, the highest respiration was 26; in a man of 64, the lowest combination proportionately of pulse and respiration was 72 to 15 in a man of 25; the highest combination proportionately of pulse and respiration was 92 to 23 in a man of 21.

The pulse and respirations are not accelerated to the extent naturally supposed. It will be observed that even at an elevation of 10,000 feet the pulse and respirations compare favorably to the normal at sea-level.

So much in brief for the consideration of a region that has effected as many cures of tuberculosis as any known.

The cases to be sent here must be carefully selected; they should have a permanent income of, at least, \$50.00 per month; they should be accompanied by intimate friends or relatives in their journey away from home. The tubercular invalid is prone to develop nostalgia, which is always a factor for evil in these cases and destroys many lives that might otherwise have been saved.

As mentioned in my contribution to the New York Medical Journal, August 27, 1904, the disease should be recognized, if possible, before ocular demonstration of the germ. If, at this time, the patient is sent away, recovery is assured with great certainty.

Compensated valvular disease of the heart is not a contraindication to an altitude of 5,000 feet in every case. Cases in the second stage, without laryngeal involvement, will improve in this region. If the throat is involved, I believe the Salt River Valley of Arizona to be more beneficial. Patients with tuberculosis of the bones and joints, of the cervical, lymphatics, and of the testicle, especially those cases with open wounds, will find the sunshine of this region a potent factor contributing to their cure.

It would seem more charitable for us to persuade the invalid in the third stage of tuberculosis to remain at home; the most favorable climate can offer him but little, and contribute vastly less to his comfort as compared to the home environment. Patients should not be sent to a health resort, with the expectation of engaging in labor,

thereby supporting themselves during their stay in a favorable climate. They will find competition keen, and only those physically capacitated for labor are successful in obtaining employment. The services of those weak and enfeebled by disease are no more in demand here than elsewhere. Without exception, every invalid sent to a health resort should be referred to some reputable physician. All the well known health resorts support an army of quacks and nostrum-mongers. These frauds are in most instances totally devoid of any professional ideals, and their methods usually represent the lowest types of commercialism in medicine. They find in the ever hopeful consumptive a ready victim.

In conclusion, I will say that in properly selected cases of tuberculosis, climate is not a will o' the wisp, whether it be the climate of sand-shrouded Arizona, or that of the pine-clad wilderness on Unilaska's shore, "the end of the bow of promise to these patient, hopeful sufferers does not rest on the mystic shores of the spirit-land."

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INSANITY FOLLOWING SKULL INJURIES.*

BY E. MAMMEN, M. D., BLOOMINGTON.

It is proposed to limit this brief discussion to those traumatisms of the skull which have been sufficiently severe to produce more or less pronounced changes in the cerebral cortex and of such character as to produce insanity.

Injuries to the skull, whether of the base, frontal region, parietal, or occipital region, are liable to result in insanity.

Epilepsy produced by trauma, has for many years received its share of attention from the surgical standpoint, and operations for its relief are common, and sometimes successful.

As results of injuries, other symptoms occasionally appear—such as aphasia, amnesia,

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

agraphia, the impairment of the musical or arithmetical faculty. These and others, but especially the occurrence of decided mental impairment, present resultants of skull injuries, which have not received that consideration which their importance demands. Many of these patients apparently recover in a short time, but later, sometimes years after, develop symptoms, which if properly traced, are to be ascribed to injuries of the skull. These may have been forgotten and are overlooked at the time the examination for insanity is made. Acute cases, such as develop within a few weeks or months after injury, are of course sufficiently striking to arrest attention.

That head injuries should affect psychic processes, when they occur in such a way as to involve psychic centers, is quite as evident as that injuries affecting motor areas should produce epileptiform movements or paralysis of some function or group of muscles.

However, if an insane man is brought into court, put on the defensive, because he is insane (because he has a diseased or injured brain) The form of verdict in this State concludes with "and that he (or she) was in person actually present with full liberty to be heard in *defense*" and such a man presents history of injury to the cranial vault or base, of depression or fracture of bone, which has been neglected or overlooked, it will not always be possible to convince either court, jury, friends, or physicians, that such injury may be, or is the prime factor in the causation of this insanity—provided of course, other causes can be conclusively eliminated.

In this connection, it is of interest to note our inability to localize the performance of mental processes in the brain. Many physiologists have placed them in the frontal lobes. Phelps, of New York, states that injuries to the left frontal lobe are always followed by mental changes. Others have collected facts that demonstrated the inoffensiveness (harmlessness) to the mental faculties of injuries to this part of the brain. The majority of physiologists locate the centers for the intellectual faculties in the anterior parts of the frontal lobes. Haliburton and others again locate the intellectual faculties in the occipital lobes

stating that experimental physiology lends no support to the view that the frontal brain is the seat of the intellect. This view is supported by Clapham and others. Again, Schaefer, and a number of physiologists, believe that the intellectual faculties are bound up in the brain as a whole. Practical observation shows that trauma, whether of the base, occipital, frontal, or lateral regions of the skull, has been followed by insanity, with a predominance in frequency when the injury occurred to the frontal lobes.

Insanity may follow skull injuries, though such injuries do not constitute fractures, or fractures of the internal table may have occurred, without a corresponding fracture of the external table, or there may be more or less extensive fractures of all degrees of severity, which are followed by recovery, with the ultimate sequel of insanity. This is more especially true of those subjects, in whom there is a family predisposition, but occurs every now and then where no trace of neurotic tendencies can be discovered. Injuries producing only brief temporary loss of consciousness, are frequently classed as concussions. These are more accurately cases of cerebral contusion, of minute structural lacerations, producing extravasation of blood, disconnection of nerve cells, disassociating neurons, while in the cerebral coverings, there is histological laceration of pia, arachnoid, dura, and even of bone tissue, as well as of the periosteum and scalp. In recovery such conditions may lead to degenerative changes in the cortex, in nerve cells or their fibres, or to sclerotic and adhesive changes in the meninges or bony covering, sufficient to produce marked sequelae. These may not appear for weeks or months, but appearing finally increase in severity and terminate in permanent irritation and injury to the subjacent neurons. Such changes in the gray matter, may not be appreciable, but become apparent through derangement of function. In more severe cases, spiculae of bone, adhesions of the meninges, partially organized clots, cysts of the arachnoid of hemorrhagic origin, or hyperaemic bone, have constituted the offending causes, whose removal has been followed by most brilliant results.

Without operation, the prognosis in all of these cases is exceedingly bad. With operation, the patient's prospects may be improved that is a cure may be established in some of them. It is not always certain that the injury to the brain tissue is subjacent, or even adjacent to the skull injury. There may be contra-coup, there may be histological contusion in other localities, or the character of the nerve cell destruction be such as to render restoration of them impossible. But these cases are hopeless from the standpoint of medical treatment—hence, whatever will give relief, or a reasonable hope of relief, is indicated. Crisp English shows that relief has come to many of these cases, even though operation was performed late. In all, to give best prognosis, operation should be performed early—before constant irritation and pressure has added to the severity of the case, and produced permanent change of nerve cells. The type of insanity is not constant, nor is it constant for injuries in a given locality, such as the left frontal lobe. Some observers have, however, found two types: 1st. Insanity due directly to the actual injury and entirely distinct from hereditary or predisposing causes. 2d. Indirect insanity, occurring as the result of lowered resistance of the brain consequent upon injury in those in whom there exists some predisposition, hereditary or otherwise. In the latter case, the prognosis is nearly always or perhaps always hopeless. The following three cases from my own practice belong to the former class, and may serve to further illustrate this subject:

Case I. J. S. H., aged 47, master brick mason, of excellent health and physique. No trace of insanity or disease of the nervous system in the family, nor any evidence of syphilis, hereditary or acquired, was hit on the top of the head by a tile, falling from the roof of a five story building, producing a depression furrow about an inch long and half an inch deep. This was located a little to the right of the sagittal suture, and near its middle, and a little to the right of the superior longitudinal sinus. The blow was not succeeded by unconsciousness, and the wound healed, leaving the depression, but he went

about his business as usual, feeling apparently as well as ever. In a few months he had a severe attack of herpes zoster, involving the sixth and seventh intercostal nerves, but he recovered. Gradually his character began to change. From possessing a mild temperament he became irritable; little things would annoy him. He became nervous, fretful, was unable to get along with his men, lost flesh, lost appetite. Then began to fancy that his home people were his enemies, conspiring to annoy him. He became incapable of prolonged exertion, then complained of headaches, had hallucinations, wandered about away from home, hence, had to be watched, and his friends brought him into court, where he was seen by me and examined. The attention of judge, jury and friends was drawn to the injury as the cause of his insanity, and the advice given that the bone pressure be relieved. No attention was paid to the advice and the patient was removed to Kankakee hospital about a year after having received the injury. He remained there from July 4, 1892, to November of the same year, when he was discharged improved. He came home in a submissive mood, quite appreciative of his friends and home, but gradually lost all interest in affairs—complete dementia ensued, and after a short period of coma, died, Jan. 11, 1904, there having been no rise of temperature at any time.

It is not difficult to infer what would have been the result in this case, had early elevation of bone been the method of treatment.

Case II. W. S., farmer, aged 25, of robust health and strength, with a clean family history, was thrown by a running horse, so that the force of the fall was delivered upon the anterior parietal portion of the right side of the skull. He was unconscious for a number of hours. There was no cut of the scalp or evidence of fracture. He remained quiet a few days, then feeling quite well, resumed his duties about the farm. For a time nothing out of the ordinary happened. Then his friends noticed periods of depression, questions would be answered in unusual ways. He became restless, would not content himself at home. Finally would wander away. Had to be brought back several times, and

with difficulty. Brought into court the history of the injury was recited, and I advised operation, but the advice was not heeded. Patient was adjudged insane and sent to Jacksonville hospital where he remained three months and was then allowed to return home improved. A short time later, he, however, manifested the same symptoms. About this time, Dr. C. M. Noble, of this city, advised that a skiagram be made and that elevation of the bone be performed, should thickening or depression be shown. This time the advice was heeded. A skiagram, made by Fuchs, showed heavy shadow at region of injury. I made the operation by means of a large omega shaped incision, and found dura adherent. This adhesion was loosened, then a portion of the inner table split off and the flap replaced. Recovery from the operation was prompt—recovery from insanity permanent. Four years have elapsed, and he continues in good health. It should be added that for several months after operation, care was taken to insure quiet and mental rest for the patient.

Case III. A. L., carpenter, aged 38, father of six children. On July 11, 1900, he fell from a scaffolding, producing a fracture in the skull, over the left parietal region. It was a large stellate fracture with depressed bone in the center. Profound unconsciousness supervened. The bone was elevated by a colleague of mine, but patient continued in a stupor for several days, after which he slowly improved, and was able to leave the hospital after about four weeks, and resumed work in October following. After the lapse of about two years, it was noticed that he was more than usually irritable, and morose, and had delusions about people entering his house by stealth, and their illegitimate relations with his wife. He was sent to Jacksonville hospital, and discharged after some months, improved. On returning home, he resumed his usual occupation, but in a short time again became morose, irritable, suspicious, and fretful. He quit work, saying that he had a competency, did not need to work any more. He again had delusions about parties having illegitimate relations with his wife, and finally seized her, choked

her, and threatened to kill her. He was again brought into court, his insanity reestablished, and with the consent of the court, his wife, and friends, the advice of three physicians, that operative interference was necessary, was taken. By means of rongeur forceps, a large omega shaped incision was made through the skull, so as to surround the seat of the injury, where a large depression remained. The bone flap was laid over, so that the subjacent structure could be freely examined. Unfortunately, the longitudinal sinus suffered laceration from the too far downward projection of the rongeur, and excessive hemorrhage prevented as free and careful examination, as was desired. The adherent dura was liberated, no spiculae of bone were found. No pressure of bone could be demonstrated but such as may have existed was relieved, and the adherent dura loosened.

Three months after operation, patient stated that he was glad of the operation, that his mind had been off, but was then all right. His wife found him improved. In a short time, however, the mental symptoms recurred. He remained at home with his family. Jealousy of his wife, and inordinate sexual passion, are again his leading symptoms, and although physically able, he refuses to work.

Should question still rise, as to whether or not head injuries are direct causal factors in producing insanity of themselves, these three cases—devoid of hereditary and other causes, would certainly aid in demonstrating an affirmative answer. In persons with hereditary tendencies, injuries have frequently acted as exciting causes. This is clearly shown by many observers. Crisp English (*L. Lancet*, February 20, 1904) follows up three hundred cases of head injuries, and finds that ten per cent suffered from traumatic insanity, besides a number who had mental changes. Welt collected fifty-nine cases, of whom twelve had mental changes; and Phelps a list of twenty-eight cases, showing mental disturbance after injury to the left frontal lobe. English shows conclusively that many cases of skull injuries are followed by mental changes, that are not pronounced insanity,

while a large per cent of those injured in any part of the skull, developed traumatic insanity.

The results of operation in the above case of recovery is encouraging. While the case of A. L. was not benefited, it is certain that his condition is no worse than before. The results of operation in other hands, shows that only a small portion of those operated on for insanity were cured.

Conclusions:

1. Injuries to the skull whether contusions or actual fractures, cause insanity in some cases.

2. Insanity may occur independently of the locality in which the injury is located.

3. Operations for insanity from skull injuries are sometimes successful, especially when their seat is accessible, and the damage to the nerve structures, correspond to the external wound.

4. Operations for relief of insanity, should be performed as early as possible, and be followed by a prolonged period of mental and physical rest.

5. Operations upon the cranial vault, under aseptic precautions, are as safe, as upon other cavities of the body—therefore, operation treatment of these cases, should always be advised.

MALIGNANCY IN UTERINE MYOMATA.*

BY HENRY F. LEWIS, M. D., CHICAGO.

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Uterine myomata, more strictly called fibromyomata, typically are benign and innocent growths which only cause trouble by reason of their mechanical presence, resulting in pressure symptoms; by reason of their influence upon the uterine musculature and endometrium, resulting in hemorrhage, and by reason of their degeneration, resulting in gangrene, infection or malignancy. Many a woman carries a myomatous tumor, in her uterus unknown to herself. Sometimes its

presence is only revealed when it obstructs or complicates labor, sometimes when genital bleeding calls attention to it, sometimes when its increasing size interferes with bladder, rectum or other pelvic organ or causes it to rise into the patient's ken in the abdomen, sometimes when the secondary results of its degeneration or infection cause more or less alarming symptoms. The neurotic element also must not be belittled. The knowledge of the presence of a growing tumor, even if she is assured that it is entirely benign, is a source of much anxiety to the average woman as it would be indeed to the average man. It is my purpose to consider only the question of malignancy in myomatous tumors of the uterus; how often it occurs, what are its varieties, what are the clinical and pathological appearances and how far should the chances of the supervention of malignancy go in determining our decision for or against operation.

Some authors, notably Uleska-Stroganova, describe a peculiar form of malignant degeneration in myomata which appears to be not true sarcoma but in which the characteristics of malignancy are pronounced. It is considered that there is a special form of malignant disease arising in myomata whose starting point is the muscle cells. This is called leiomyoma malignum. Clinically the tumor shows its malignancy by its rapid growth, its tendency to recur and the frequent occurrence of metastases. Microscopically the matrix of the development of the malignant myoma is the muscle cell. There is an extraordinary difference in the cell forms. Polynuclear cells are abundant. There are also numerous and diverse cleavage figures. The elongated cells are seen in various stages of change, from the ordinary unstriped fibre of the myoma and the uterine wall to spindle-shaped bodies differing little from true sarcomatous elements. There is in the tumor a preponderance of young muscle cells. These authors would believe that there is a special malignant myoma distinguishable from sarcoma of the uterus; even from sarcoma arising in fibromyoma. It is more frequent than generally supposed, being usually classed with ordinary sarcoma. True

*Read before the Surgical Section of the Illinois State Medical Society at the Rock Island Meeting, May 17, 1906.

sarcomatous degeneration of a uterine myoma is considered by Stroganowa as very rare. Tumors which show young muscle tissue and which certain authors describe as sarcoma, others as ordinary myomata, must be carefully observed for quick changes and a tendency to undergo malignancy.

It seems to me unprofitable to try to distinguish malignant disease of the mesoblastic type in the uterus as malignant myoma and as sarcoma. The definition of sarcoma is a malignant neoplasm composed of mesoblastic elements. Its origin may be in muscle, in connective tissue elements between muscle fibres or in the connective tissue of the endometrium. Unless we contend that all sarcomata of the uterus arise from the endometrium or from the connective tissue of the uterine wall and not from the muscle elements we are not justified in classing as a tumor of a separate variety those malignant neoplasms which take their origin from the muscular cells of the myoma itself. The dividing line between these latter growths and tumors which would by everybody be classed as sarcomata is vague. Some malignant growths of the uterus there are which are largely composed of cells apparently recently developed from young muscle cells. These indeed are usually soft and of rapid growth. There are other malignant mesoblastic tumors composed chiefly of spindle-shaped connective tissue cells. These are usually harder and perhaps do not exhibit quite so rapid a malignity. Between these are many varieties of tumors, composed of young muscle cells, spindle cells, large round cells, small cells and polynuclear cells in varying proportions. The same tumor in parts not very widely distant may show different stages of all the above characters. These tumors are all more or less malignant, in that they tend to recur, to grow rapidly, to become necrotic and to form metastases. They are consequently all sarcomata. There are tumors arising in the endometrium of the body or the cervix, entirely independent of myomata, which exhibit characteristics grossly and minutely different from the sarcomata which we are considering. They are rather more apt to be composed largely of round cells and

their spindle cells have no appearance of muscle fibres. Microscopically they are usually more or less pedunculated or grape like in appearance and project into the uterine or cervical cavity, resembling adenomatous growths.

The change from muscle cell to spindle cell has been observed and demonstrated by drawings and specimens by several authors. Von Kahlden in 1893 was the first to trace this change of the muscle cell of a myoma to the spindle cell of a myosarcoma. Whitridge Williams the following year also demonstrated a case. Pick and Chrobak have since confirmed these observations by reports of cases studied by them. On the other hand, Ricker thinks that Williams and Pick mistake for a metamorphosis of the muscle cells spindle cells of the sarcoma growing in between the muscle cells. Other authors consider that the sarcomatous cells arise from the adventitia of the blood vessels of the fibromyoma.

A fibromyoma of the uterus is composed, in varying proportions, of the smooth muscle fibre, little different from that of the uterine wall, and of connective tissue bundles, differing only in their arrangement from the same elements in the uterus. There is never a true myoma of the uterus except at the very earliest stages of growth. There is almost never a true fibroma of the uterus. It is probably true that the softer tumors, composed mostly of muscle tissue are more prone to malignant degeneration than the older and harder ones composed mostly of connective tissue.

Sarcoma arising from fibromyomata of the uterus or existing coincidentally therewith is by no means common. McDonald observed only three in 280 fibromyomata operated upon by him or seen at autopsy. Noble, among 278 cases operated upon, found only two cases of sarcoma. A. Martin out of 205 cases of fibroid tumor, saw only six where sarcomatous degeneration of the tumor had occurred. Baker and Graves observed three sarcomata among 33 cases of fibroid. Frederick reports a series of 125 cases of fibromyoma in two of which sarcoma was present. Küstner believes that 3% of fibroids become malignant,

usually by the appearance of sarcoma. Eastman states his opinion that 5% of uterine fibromata undergo sarcomatous degeneration but supports it by no statistics. Hunner, in 100 consecutive cases of fibroid of the uterus, observed sarcoma twice. In Klein's series of 138 cases of fibromyoma, 3 were sarcomatous. Scharlieb, analyzing 100 consecutive and unselected cases, states that she observed sarcoma six times. Cullen thinks that from 1½ to 2% of fibromyomatous tumors become sarcomatous. Haultain considers sarcomatous or other malignant degeneration of a fibroid tumor of the uterus very rare, even if an authentic case has really ever been proven. He considers the existence of the two together as merely coincident. In 400 cases of fibromyoma he saw only one sarcoma. The figures of Cullingworth are similar. He saw one case of myxosarcoma in 300 cases of myoma. In 300 of Simpson's cases of fibroid none was found to have undergone malignant degeneration. On the other hand von Franqué estimates the frequency of sarcomatous change in myoma of the uterus to be between 3 and 4%.

Whitridge Williams divides sarcoma of the uterus into two classes. The first he calls *myoma sarcomatodes*. This is a sarcoma springing from the muscle cells of a fibromyomatous tumor. The second he calls *myosarcoma*. This is merely a mixture of myomatous and sarcomatous cells due, as a rule, to sarcomatous change in the connective tissue elements of the tumor. To these Weir would add a third class, namely, a malignant neoplasm resulting from sarcomatous changes in the connective tissue of the uterine wall without the previous existence of any myomatous tumor. A fourth class ought to be added, namely, the sarcoma arising in the connective tissue of the endometrium of body and cervix. The majority of uterine sarcomata are of this fourth variety. They form circumscribed polypoid growths or diffuse infiltrations, both varieties subsequently infiltrating the wall. The sarcoma of the cervix, less common than of the body of the uterus, assumes a peculiar grape-like form or often a polypoid or nodular type.

Abel says that the sarcoma which begins

in the wall of the uterus is usually sarcomatous degeneration of myoma. Gebhard considers sarcoma of the uterus relatively frequent. The myosarcoma loses the bundle form in the arrangement of its elements and becomes more homogeneous in appearance. Considerable necrosis is common and also many areas of hemorrhage throughout the growth. The sarcoma often extends beyond the original bounds of the myoma. Beyea looks upon sarcoma of the uterus as a metaplasia of myoma into sarcoma. Early begins a softening and necrosis in the center of the affected tumor, often with great blood extravasation. The sarcoma cells are large and often polynuclear, containing much chromatin. The spindle cells retain their form for a long time, showing origin from the muscle cell. Sängner believes that all myomata containing giant cells are sarcomatous.

Sarcomatous change in a fibromyoma of the uterus shows itself by signs and symptoms of rather significant character. A myomatous uterus has perhaps lain dormant for several or many years, perhaps causing few symptoms, perhaps only noticed because of its size, perhaps not even suspected. Within a few weeks or months a rapid growth of the tumor within the abdomen has taken place. When the tumor thus increasing in size is a submucous one it often happens that portions of it are cast out of the genital tract piecemeal. These pieces are usually more or less necrotic and are usually accompanied by a discharge which smells offensively. Microscopic examination of such discarded portions will show sarcoma. If subserous or interstitial the tumor may be locally softened. Cachexia is not long in making an appearance. The commonest time for the supervention of such symptoms is a little while after the menopause, sometimes several years later. Infection of the softened regions or of the endometrium over an intra-mural fibroid of this character may often occur, accompanied by hectic symptoms. The most marked signs however are the sudden rapid growth and the softening.

Such tumors removed by myomectomy, by subtotal hysterectomy or by spontaneous extrusion per vaginam show myomatous

nodules in the substance of which are areas of softer and more homogeneous tissue, often of a paler hue than the rest, sometimes containing numerous hemorrhagic extravasations.

The sarcomatous disease usually develops in the substance of one of several myomata and may exist in the subserous, interstitial or submucous varieties indefinitely. The firm cross-grained fibromyomatous tissue is replaced by a homogeneous yellowish white growth devoid of fibroid arrangement and closely resembling raw pork. Various further degenerations in the sarcoma tissue are frequent. The microscope reveals spindle cells replacing the muscle cells. In some places spindle cells are situated between the smooth muscle fibres, in other places the latter are entirely replaced by the former. Polynuclear cells are frequent. In many tumors of this class large and small round cells are numerous but in most or all of the sarcomatous degenerated myomata the spindle cells are the chief neoplastic elements.

Carcinoma, contrary to the opinion expressed by many authors, is a more frequent accompaniment of fibromyoma of the uterus than is sarcoma. A direct etiological sequence can be more frequently traced in fibromyoma and sarcoma than in fibromyoma and carcinoma. However, the two exist in the same uterus in the latter instance more often than in the former, because carcinoma is a commoner primary neoplasm of the uterus than is sarcoma.

Carcinoma may arise from several sources in a myoma of the uterus. It may extend from the mucous surface of a polypoid carcinoma of the body or from the glandular structure of an adenoma malignum. Such a tumor Gebhard calls myocarcinoma. A few authors believe that the muscle cells of a myoma themselves may change and become of the epithelial character of carcinoma, just as they may become changed into the spindle cells of sarcoma. The occurrence of such a metaplasia has not been proven. It seems to me unnecessary to bring in this theory to explain phenomena which can be more plausibly explained otherwise. Remains of the Wolffian ducts may be included within a my-

oma and may undergo carcinomatous growth. The so-called adenomyoma is a cystic fibroid tumor, usually of the posterior uterine wall, in which these Wolffian remains have greatly hypertrophied but have not become malignant.

Roger Williams states that carcinoma co-exists with fibroids in nine per cent of the cases of the latter, but that carcinomatous degeneration of the fibromyoma is of rare occurrence. Dorland reports a case of carcinoma of the body of the uterus where the diagnosis was made by examination of the curetted scrapings. On removal the uterus was found infiltrated with small nodular fibromyomatous growths of some which had become involved in the cancerous process. One, near the mucous membrane just above the cervix, showed adenocarcinoma, which was also seen on the mucous membrane covering the fibroid. A second tumor was a small polyp of a glandular character but not malignant. A third was a small fibroid polyp with carcinomatous degeneration on its surface.

It seems well established that carcinoma of the uterus accompanying myoma is more common than sarcoma complicating the same tumor. Among McDonald's 280 cases of fibromyoma were 6 cases of adenomyoma, associated with adenocarcinoma of the body 2 of carcinoma of the cervix and one of chorioepithelioma malignum. Noble, among 278 cases of myoma, had 6 of adenocarcinoma of the corpus, 4 of epithelioma of the cervix, one of chorioepithelioma malignum and one case of carcinomatous infiltration of the fibromyoma arising from adenocarcinoma of the body of the uterus by metaplasia. Martin's 205 cases of myoma were accompanied by adenocarcinoma of the corpus in 7 and carcinoma of the cervix in 2. Frederick, among 125 cases of fibroid of the uterus had 6 cases of carcinoma of the body and 2 of epithelioma of the cervix. Scharlieb's series of 100 cases had carcinoma complicating the fibroid in 2 and one case of carcinoma invading the fibroid tumor itself. Hunner's 100 cases had accompanying carcinoma of the body in 3, adenomyoma in 2, carcinoma of the cervix in 2.

That there is an etiological relation between adenocarcinoma of the corpus uteri and fibromyoma seems probable, although the exact relationship cannot be stated. Richelot says that every fibroma of the uterus is accompanied by hypertrophy of the mucous membrane of the uterus. He also expresses the opinion that fibroids really predispose a uterus to malignancy. Wyder and von Combe tend to show by their studies that fibroma induces hypertrophy of the mucous membrane. It has long been the opinion of gynecologists that the hemorrhages in cases of uterine fibroids were caused by hypertrophic endometritis accompanying the tumor and caused thereby. On the other hand Theilhaber and Hollinger, in a study of 19 cases of myomatous uteri, found that the bleeding fibroids were accompanied with little or no hyperplasia of the endometrium while in those which did not bleed the mucous membrane averaged a little thicker. The muscular layer is always much thicker in myomatous uteri and also in carcinoma of the body.

It is unlikely that the casual connection between fibroids and carcinoma of the body is on the side of the carcinoma influencing the fibroid because the growth of the carcinoma is usually rapid while that of the non-malignant fibroid is slow. When a fibroid is present in the wall of the uterus the rest of the wall is much thicker than normal and the blood supply to the whole organ is greater. The tendency is to a supernutrition of the endometrium and a hypertrophy of the glandular portion, which frequently may go on to malignancy. The fact remains, however one explains it, that adenocarcinoma of the body is relatively more frequent in myomatous uteri than in others.

Babcock gives a careful pathological report of three cases operated upon by Noble. They were three hysterectomies for medium-sized multiple myomata complicated with carcinoma. Two were affected with adenocarcinoma of the body and one with extensive epithelioma of the cervix. All three were in women considerably past the menopause. The symptoms began with irregular hemorrhages and later a serous and offensive discharge. Numerous authors write of the relative fre-

quency of adenocarcinoma of the body of the uterus accompanying fibroid tumors. These tumors are usually interstitial or submucous, just the sort which cause most circulatory disturbance and irritation to the endometrium and musculature of the uterus. Roger Williams describes 7 cases of cancer of the uterine body, two of which were accompanied by fibroids and a third of which had been operated upon five years before for the removal of a submucous fibroid. In one of the cases the epithelial growth had penetrated the myoma itself. Stone gives 4 cases of malignant adenoma of the corpus uteri in which the uterus was inspected and in one subperitoneal and interstitial fibroids were present. Kelley reviews one hundred cases of uterine cancer and finds that fibromyoma was also present in 8.6 of which 8 were adenocarcinoma of the body, 1 adenocarcinoma of the cervix and 1 epithelioma of the cervix. Schroeder estimates that only 3.4% of uterine carcinoma originate in the body. If therefore adenocarcinoma of the body and fibromyoma were merely coincident, we would not expect that the two would be found together so much more often when the cancer was in the body than when it was in the cervix. If merely coincident, we would expect the proportion of coincidences in the cervix to be as great as the proportion of preponderance of cervical over corporal cancer.

Croisier reports one interesting case which illustrates one phase of the question. A woman of 39 years began to experience a prolongation of duration of the menses, a slightly increasing frequency and an increasing loss of blood. The severity of these symptoms progressed until in a few months the hemorrhages were almost constant. Through the speculum a polyp could be seen protruding through the os. This seemed to account for the hemorrhages and tampon was employed to dilate the os preparatory to snaring off the polyp. When dilatation was accomplished it was found that the pedicle was too large for snaring. Some pieces of the tissue of the polyp removed in the efforts to snare were subjected to microscopic examination and adenocarcinoma was found. A supravaginal amputation of the uterus was

performed. A spherical tumor of whitish yellow color and the size of a pigeon's egg was attached by a pedicle at the fundus, the tumor filling the uterine cavity. Several nodules as large as peas were at the base of this tumor. The structure of the tumor was of young connective tissue elements and muscle fibres with a preponderance of connective tissue. At the level of the pedicle the mucosa of the uterus was of a papular form, thickened and ulcerated. There was no line of demarcation between the mucosa and musculature. Numerous epithelial tubes penetrated the muscularis; in short there was a typical adenocarcinoma around and at the base of the fibrous polyp. The rest of the endometrium showed signs of endometritis. In the discussion Richelot stated that it was not necessary to establish a causal relation between fibroid and adenocarcinoma that the former be large. Of 4 uteri removed recently by him for carcinoma of the body all possessed fibromyomata in addition. He deduces the conclusion from his experience that a fibromyomatous uterus is a soil on which carcinoma may readily develop.

Malignant disease of the cervical stump recurring after sub-total hysterectomy is considered by this author to be sufficiently common to warrant panhysterectomy in all cases. In his experience this occurred in 3 cases out of 13. Bland Sutton reports a case where carcinoma was present unsuspected in a case of total hysterectomy for fibroids and reappeared in the vaginal cicatrix.

Malignant disease, as has already been stated, is a rarer form of complication of fibroids in the cervix than in the body. Haultain, in his long experience, saw it only once with a large fibroid and 3 times with small fibromyomatous nodules. Grube records a curious case of delivery *per vias naturales* of a fibroid polyp as large as a hen's egg in a woman suffering also from an inoperable carcinoma of the cervix involving the bladder. There was no carcinoma of the body.

As we have seen the presence of adenocarcinoma of the body in connection and in the same uterus with fibromyomatous tumors is

not very rare, indeed common enough to make it a serious factor in our estimation of the disease. The actual invasion of the myoma by carcinoma cells is not often recorded, indeed it is a very rare occurrence. Such a case is recorded by Scharlieb. The patient was a single woman aged 61. Inter-mittent hemorrhages and foul discharge from the uterus led to examination and discovery of an enlarged uterus and carcinoma of the cervix.

The bulk of the organ was caused by a fibromyoma one portion of which was attacked by carcinoma of the same histological structure as that of the cervix. No direct extension of the cervical growth could be traced upwards into the corpus.

Under the microscope I show a specimen of fibromyoma taken from the fundus in the small nodules of which are numerous nests of epithelial cells resembling those found in carcinoma of the cervix of the same uterus. The growth is seen mostly within the fibromyomata and much less abundant in the other musculature of the uterine body.

Noble reports a case of invasion of the fibromyoma by adenocarcinoma of the body. A virgin, aged 63 years, who had passed the menopause at 45, began to have profuse and foul smelling leucorrhœa with frequent slight hemorrhages. There was also irritability of the bladder with occasional incontinence. A clinical diagnosis was made of degenerating fibroid from these symptoms and the discovery that the uterus was much enlarged and nodular. Curettage and microscopical examination revealed no carcinomatous scrapings. Supravaginal amputation was performed. The uterus was as large as a fourth month pregnancy and contained in its cavity a pedunculated fibroid. The endometrium appeared normal macroscopically but microscopically showed adenocarcinoma at the apex of the fibroid and on the opposite wall. Within the fibroid were numerous areas of carcinoma in considerable part resembling squamous celled cancer but also showing something of the adenomatous type. The cervix is reported to have looked normal at the operation and was not removed.

A few other cases of extension of carcinoma from other part of the uterus and cervix into the tissues of the myoma are reported and one case of metastasis into the fibroid from cancer in the lung.

How far does our present knowledge of the probabilities of the supervention of malignancy in a fibromyoma justify us in making rules for operation upon such tumors? What fibromyomata should be operated upon and what may safely be left without operative interference? It is not my purpose to consider those indications for operation like complications with ovarian or tubal disease, necrosis of the tumor, twisted pedicle of a pedunculated fibroid, pressure on neighboring structures causing symptoms, complication with pregnancy and the like. To all of these factors as indications for operation may be added the possibility of malignancy. If operation is decided upon, is myomectomy the proper procedure or should in all cases the uterus be totally or partly removed?

Most modern authorities advise operation if symptoms are present which threaten life or which cause suffering or even great discomfort. Hirst would operate in only 20% of his cases of fibromyoma. It is generally conceded at this time that no other treatment except operation is worth trying or indeed safe to try. That is, in other words, if we do not operate we ought to let the tumor alone. If the tumor demands any treatment except that of a placebo, it demands operative treatment.

R. Williams attempts to prove that fibromyoma of the uterus is not a very fatal disease. Others have stated that the mortality of operations undertaken for fibroids is greater than the average mortality if the tumors are left without treatment. In the report of the Registrar-General of England for 1901 it appears that, out of a population of 17 million females, only 339 are recorded to have died of uterine myoma. The 20th U. S. Census shows a record of 657 deaths from myoma in a population of 37 million females. From this the inference is, unless we study further, that uterine myoma is not

a disease that causes death in any considerable proportion of instances. The discrepancy however between the figures for population and for deaths from myoma will diminish when we consider the ages and social states of the women who have myomata. The prevailing age when the diagnosis is made is from thirty-five to fifty-five. Many more single women are affected than married women. Many more sterile or nearly sterile women are affected than prolific women. Williams hazards the belief that 20% of all women over thirty-five years old have fibroids. From that assumption he jumps to the conclusion that one million patients in England are affected with fibroid. This is equivalent to saying that 10 females in every 36 are over thirty-five years old, a preposterous assumption. On what justification stands the original statement that 20% of all women have fibroids after thirty-five no one has shown us. On the other hand also the figures 339 deaths from myomata do not represent all the damage done by such tumors. Death certificates are notoriously inaccurate upon which to base conclusions as to frequency of diseases. Those cases only are recorded where the myoma was the sole or the prominent cause of death. In an immense number it is probably a more or less remote accessory cause. Peritonitis and sepsis from infection on account of the fibroid will be entered under other headings. In cases of carcinoma of the uterus accompanying fibroid of that organ the death will almost always be entered as due to the malignant disease. We also leave out of account those cases of heart disorder accompanying or bearing a causal relation to fibromyoma which must in many instances be more or less close accessory causes of death.

It may be doubted whether 20% of all women over thirty-five have fibroids but it is certain that a very large number have them without symptoms. Autopsies after death from other causes frequently find large or small fibromyomata and operations upon the uterus or pelvic organs often reveal small fibroids which had been causing no appreciable symptoms. Such, however are not the fibroids which are diagnosed as fibroids.

When a pelvic examination reveals a fibroid it almost always happens that the woman came for such examination because of symptoms and these symptoms usually have been caused by the presence of the fibroid.

From the statistics of McDonald, Noble, A. Martin, Frederick, Hunner, Scharlieb and Haultain I gather that, out of 1518 cases of fibromyoma of the uterus observed, 72 were accompanied by malignant disease of the same uterus. Therefore from these figures we judge that about 434% of fibromyomata of the uterus are associated with malignancy.* This per centage then is the contribution which the chance of malignancy alone makes to the indications for operation in fibroids.

Klein advised extirpation of the uterus when the fibromyoma continued to grow after the climacterium. He would dare wait only where the tumors were of small size and then only when they were under constant or frequent observation. Most of the best modern authorities are becoming less and less conservative in regard to operation in case of fibroids.

*Author.	Cases.	Sarcoma.	Adenocarc. of body.	Carc-Cervix.	Choria-epith. malign.	Total.
McDonald	280	3	6	2	1	12
Noble	278	2	7	4	1	14
A. Martin.....	205	6	7	2	..	15
Frederick	125	2	6	2	..	10
Hunner	100	2	3	2	..	7
Scharlieb	100	6	3	9
Haultain	400	1	..	4	..	5
	1518	22	32	16	2	72
Per centages.....		1.45	2.11	1.05	0.01	4.62

Many cases like that of Croisier, already quoted, will appear perfectly benign but after operation the microscope will prove the existence of the germs of malignancy. The indications for operation on fibroids grow with the improvement of the technique. The smaller the tumor the easier, other things being equal, is the operation. The longer we let a fibroid grow the harder will it be to remove when we finally decide to operate. The average hysterectomy for fibroids done

by the best operators has a mortality at least no greater than four per cent. The mortality for the operation in cases of small tumors operated upon when the patient is in good condition, not weakened by repeated losses of blood, not poisoned by long continued septic absorption and not mentally depressed by the knowledge for a long time that she was carrying a tumor in her abdomen, must be even much better. For the favorable cases we would expect the mortality of the operation to be little more than for the average laparotomy.

The signs and symptoms showing the actual presence of malignant disease within a fibromyomatous uterus are not quickly distinctive. By the time they have indicated the diagnosis it is often too late to hope for anything from operation. I would make a working rule that every fibroid of the uterus should be operated upon as soon as the diagnosis is made except small ones whose only symptoms are the slight discomforts due to their mechanical presence in the pelvis. These should only be excepted when the patient can be under proper surveillance and is willing to undergo examination at intervals of a few months and to report at once upon the occurrence of noticeable symptoms of any kind.

What operation shall be recommended? Shall myomectomy suffice, shall we urge supravaginal amputation or total hysterectomy? If the tumor is small, no larger than a hen's egg, if there are only a few of them, especially if they are near the peritoneal surface, myomectomy will be sufficient, provided that at the same time careful examination of the curetted scrapings under the microscope does not reveal any sign of malignant growth of the endometrium. If the tumors or the affected uterus is larger than one three months pregnant, if hemorrhages have been a prominent symptom, if the tumors or tumor are near the mucous surface, supravaginal amputation should be done. Under other conditions total hysterectomy should be the operation of choice. In any event, the tumor after a myomectomy or the body of the uterus after an amputation should be opened at the time of the

operation and inspected for signs of malignancy. If possible the freezing microtome should be brought into play by a competent assistant while the pelvic toilet is being made. On any suspicion the rest of the uterus or the cervix should also be removed. Haultain says that a fibroid in the pelvis is worth two in the museum. I am inclined to think that a uterus under suspicion of malignancy is in its best situation when placed in a jar.

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THE COURSE AND SO-CALLED COMPLICATIONS OF CHOLECYSTITIS.

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The object of this paper is to call attention to the serious consequences of cholecystitis, and thus to secure an early recognition of the disease and an adequate surgical treatment. There are difficulties of diagnosis to be overcome which will only be considered when the dangers of cholecystitis are sufficiently appreciated.

Cholecystitis is the initiatory disease of trifling significance and often unobserved manifestations which is followed by a series of most terrible and explosive disasters in the upper peritoneal cavity. While appendicitis is a disease of the young and of all subsequent decades, cholecystitis is more generally recognized as a disease of middle life; and while appendicitis is a disease more frequently observed in males, cholecystitis and its complications are particularly frequent in females. There is hardly any disease of the stomach, liver, duodenum, small intestine and the blood vessels which may not be dependent directly or indirectly upon cholecystitis. The course of cholecystitis is onward, progressive and destructive, though slow and uncertain. It may terminate disastrously at any time, and it must terminate sooner or later in one of the sequelae peculiar to itself or in the passage of the stone into the common duct and the manifestations of this dread disease. If we were to catalogue the ills which follow cholecystitis, we ought to refer to those which are clinically most common, and a series somewhat like the following would be formed; indigestion, gastric hypersecretion, gastric insufficiency, atonic gastritis, dilatation of the stomach, general toxemia, recurring sickheadaches, biliary colic, gangrene of the gall-bladder, rupture of the gallbladder, pericystic abscess, abscess of the liver, not to mention the complications

that follow the passage of the stone into the common duct.

Since cholecystitis terminates naturally in the passage of the stone or stones into the common duct, it is more rational, logical and systematic to consider those complications or sequelae of cholecystitis which occur in the natural progress of the disease before the stone reaches the common duct, and consider those which follow or attend the passage of the stone through the common duct in an article by themselves. The reason that such a division is desirable rests upon the fact that the surgical treatment of these two groups is quite different. The treatment of a cholecystitis and its immediate complications is under the best circumstances a cholecystectomy, a relatively simple, direct and effective procedure. The treatment of cholelithiasis after the stone has reached the common duct is much more difficult, dangerous and less effective, and the number of operative procedures necessary is considerable, and their technical difficulties numerous and great. The multiplicity and the relations of these complications are like the streets of a city going out from the port or market place. They are graphically but incompletely shown in the following scheme:

COMPLICATIONS OF CHOLECYSTITIS.

A.—Those that occur before the passage of the calculus from the cystic duct into the common duct. The first act of the disease.

(1) Obstruction of the cystic duct, with or without calculus.

(a) Without infection within the gall-bladder (?) -Hydrops of gall-bladder.

(b) With infection within the gall-bladder, with or without stone.

(a) Empyema, (b) Gangrene of the gallbladder.

(1) Rupture of gallbladder into free peritoneal cavity.

(1) Local peritonitis.

(a) Uninfected. (a) From traumatism.

- (2) General peritonitis.
(b) Infected. (b) Pathologic.

(2) Rupture of gallbladder into attached viscera or tissues.

1. Into duodenum. 2. Stomach.
3. Into colon. 4. Liver substance.
5. Into the abdominal wall.
6. Into the round ligament of the liver.
7. Into the perirenal connective tissue spaces.
8. Into the pelvis of the kidney or ureter.
9. Into the diaphragm, thorax, pleural cavity, pericardium or lung.
10. Into a small intestine.
11. Into a hernial sac.
12. Into the portal vein.

(3) Pressure and partial or complete obstruction by the distended gallbladder or cystic duct.

1. Upon the duodenum, ectasia of the stomach.
2. Upon the hepatic or upon the common duct, jaundice and cholemia.
3. Upon the portal vein, ascites or gangrene of the ileum.
4. Upon the hepatic artery, anemia of the liver, aneurysm of the hepatic artery.
5. Upon the mesenteric artery (?)
6. Upon the pancreatic duct (?)
7. Upon the transverse colon.
8. Upon the receptaculum chyli (?)
9. Upon the vena cava.

(4) Attachment of gall bladder or cystic duct to adjacent viscera or tissues by old adhesions.

1. To abdominal wall.
2. To duodenum. 3. To stomach.
4. To colon.

(5) Displacement of the gallbladder.

1. Hypertrophy of the mucosa, papilloma of gallbladder.
2. Atrophy of gallbladder.
3. Hemorrhage from gallbladder.

4. Suppurative lymphadenitis in glands to which gallbladder is tributary.

5. Carcinoma of gallbladder.

B.—Those that occur at or after the passage of the stone into the common duct.

The second act of the disease.

- (1) Obstruction of the common duct.
(a) Cholemia. (b) Hepatitis.
(c) Pancreatitis. (d) Cholangitis.

- (2) Rupture of the common duct.
Same as (1) and (2).

(3) Suppurative lymphadenitis in glands to which the common duct is tributary.

(4) Pressure, extension of inflammation, partial or complete obstruction, by distended common duct.

- (a) Upon the duodenum.
- (b) Upon the portal vein.
- (c) Upon the hepatic artery.
- (d) Upon the pancreatic duct.

(5) Attachment of the common duct by old adhesions to adjacent viscera.

Hydrops of the gallbladder is a condition which is occasionally observed—though a case has never come into my clinical experience—in which the cystic duct is obstructed and the gallbladder is filled with its own uninfected secretions. It is a condition of little clinical significance except for the fact that this aseptic condition is not likely long to prevail. Sooner or later it passes into a condition of infection, if it has not held during the whole time some microorganism of diminished vitality or virulency, and if the system has not been protected by an intact mucosa.

Empyema of the gallbladder occurs both with and without stone, and it appears in patients who have suffered many years unconsciously of the disease, as we find at operation when the gallbladder is half to three-quarters of an inch thick, and the cystic duct for the first time completely obstructed by a calculus three-quarters of an inch in diameter. The suddenness with which the empyema is precipitated is one of the peculiarities of the disease. Through some unusual attitude of the body or activity of the ab-

dominal viscera, or trifling injury, the stone becomes fixed in the cystic duct. The infection which has silently and quietly drained through the common duct is suddenly arrested; the mucosa is rendered anemic; it undergoes necrosis; the infection gains access to the lymph channels, and the patient suffers the sudden toxemia of abscess formation. The temperature rises high, with a rapid pulse and a hyperleucocytosis, with all the symptoms of sepsis. If this is an event early in the progress of a chronic cholecystitis, the muscularis and serosa may be rendered edematous with the infected lymph, and a pericholecystitis, with pericholecystic peritonitis of greater or less extent, may be added to the picture of an abscess of the gallbladder. Such a case was that of Miss C., and in her case the rapidly increasing tumor happily gave rise to that ominous symptom, black vomit, which secured prompt attention. The enlarged gallbladder obstructed the duodenum analward of the entrance of the common duct, the bile was regurgitated into the stomach, and it was vomited. In the case of Dr. W.'s patient the primary, chronic disease had been present for years, and the complete obstruction of the cystic duct and abscess of the gallbladder came on during the removal of the morphine in the morphine cure, and the symptoms were overlooked until the gallbladder was almost perforated by anemic necrosis.

Gangrene of the gallbladder is incident to the peculiar blood supply of this viscus. It will be noticed that the gallbladder is supplied with blood by an artery leading off from the hepatic, which divides itself into two main branches. They pass close together on to the gallbladder in a connective tissue framework which carries the cystic duct. Most of the stones which produce complete obstruction of the cystic duct find themselves in the haustra of this irregular and tortuous strait, and the obstruction of the cystic duct with a stone is liable therefore with the distention of the gallbladder to thrust the stone violently and constantly against the cystic artery, compressing it against the thickened and almost cartilagin-

ous connective tissue and lymph glands at the neck of the gallbladder. In this manner, and in the process of inflammation, and on account of the arteriosclerosis which affects all the blood vessels of the gallbladder in the course of a chronic cholecystitis, the blood supply of the whole viscus is cut off at once, and the anemic gallbladder quickly undergoes necrosis. The tissues about the stone are invaded with every microorganism which has gained access to the gallbladder, and were it not for the slight collateral circulation between the gallbladder and the adjacent liver this would be more complete than it usually is.

When the gallbladder has become a mass of thickened connective tissue, with scarcely a trace of muscular fibers in it, with a greatly atrophied mucosa and imperfect arterial, venous and lymph circulation, the obstruction of the cystic duct is a much more serious affair. The patient has probably suffered for twenty years of recurring attacks of obstruction of the cystic duct and infection of the gallbladder, and has come to look upon gallstone colic as a terrible punishment of a week or so of agony, to be followed by months of relative relief and comfort. He and his physicians have overlooked the fact that each attack has changed the character of the gallbladder wall; each attack has found a less elastic, less vascular, and more sclerotic gallbladder; until, at last, with the hypertrophy of the lymph element, the atrophy of the muscular and mucous element, and the contraction of innumerable scars, the site of hemorrhages, ecchymoses, infarcts in the mucosa, and pressure atrophy ulcers, the parchment-like gallbladder is unable to withstand further insult, and gives way at the fundus or at some beginning diverticulum, with a whole mass of necrosis and gangrene of a large segment of the viscus.

Rupture of the gallbladder into the free peritoneal cavity is an event which may be looked upon as the one indication for surgical treatment upon which physicians, surgeons and laymen alike agree. It occurs not only in the process of empyema and gangrene of the gallbladder, but it also appears as a

local, pressure atrophy necrosis immediately over a stone in a haustra of the cystic duct. Perforation must then be looked for in the gallbladder in the course of over-distention, phlegmonous inflammation, and massive gangrene, and also in the cystic duct or in a diverticulum of the gallbladder into which a calculus has become irremovably entangled. The result of rupture of the gallbladder is dependent upon the infected or uninfected condition of the escaping content. If it is pure bile, then the reaction of the surrounding peritoneum is a toxic peritonitis, which is reparative in its tendencies and limited in its character. It matters not how extensively it invades the peritoneal cavity; as soon as the rupture is repaired and the escape of bile is arrested, the peritoneum takes up the effusion, and nothing is left to show what has occurred except a few crystals of cholesterol resembling bisected gallstones attached to the peritoneum which made up the bed of the receding lake of bile. This condition is illustrated by a gallbladder and the surrounding lake of stagnant bile which was operated upon by Dr. Weller Van Hook, and the gallbladder and a piece of the omentum preserved in the laboratory at the Northwestern University Medical School. The extensive lake was bounded by abdominal wall, omentum, and portions of other viscera, which were encrusted with innumerable concretions resembling gallstones and feeling like the back of a reptile. One of my patients had an effusion which filled the whole upper peritoneal cavity and the pelvis and was mistaken for a periappendiceal abscess. The two lakes were connected by a narrow straight along the outer or lateral side of the ascending colon. This patient recovered after the drainage of the cephalic and pelvic lakes. The gallbladder was untouched, and the perforation closed and has remained so for several years.

When the rupture occurs in an infected gallbladder or cystic duct, the resulting peritonitis is dependent upon two conditions; the first is the extent of the peritoneum involved, and the second is the character or virulence of the infecting microbe. When the

perforation takes place into the general peritoneal cavity, a general peritonitis results. When it occurs into a peritoneal pouch which has been walled off from the general peritoneal cavity by protective, adhesive peritonitis, a local abscess or infection results. When a gallbladder infected with the typhoid bacillus alone, or with the pneumococcus, breaks into the peritoneal cavity, the resulting peritonitis is less virulent, septic and toxic than that which follows the discharge of streptococcus or colon bacillus pus from an empyema or gangrene of the gallbladder. The appearance of a perforation can never be foretold, suspected or prevented. Sometimes it occurs with the very first symptom of biliary colic. Again, a patient may suffer innumerable attacks of a most threatening aspect, and the gallbladder remain intact. It is not a wonder that physicians of extensive practice trust to the uncertain eventualities of biliary colic after seeing the threatening symptoms of these attacks pass off willy nilly into the sunshine of health. Nothing can so impress the uncertainty of perforation of the gallbladder as the record of a case which occurred in a young man of apparently perfect health who had never suffered of any symptoms of biliary disease until the attack which ended his life.

Mr. W., age 26, a thoroughly well-built young man, weighing 170 pounds, and standing five feet ten inches in height, was a train dispatcher on the Big Four at Kankakee. He had never been sick in his life and had never needed the attention of a physician. His appetite and digestion had been perfect. There was no history of typhoid or any other protracted disease, and he had never been troubled with colic, vomiting, or other abdominal disturbance. He had been married eight months. Three weeks ago he had an attack of pain in the abdomen, which came on just as he was leaving his work at seven in the morning, which he attributed to eating some peanut candy. His occupation required him to be at work from ten in the evening until seven in the morning. He vomited several times on his way home, and felt so uncomfortable during the next day or

two that he remained in bed. He frequently had severe abdominal pain, which could hardly be termed a colic. He took a mercurial laxative, and after three or four days of rest he went to work again feeling perfectly well. Two weeks later, on Tuesday morning, April 22, 1901, he vomited several times on his way home and had such great abdominal distress that Dr. John A. Brown was called that evening. Wednesday morning his temperature was 100 and his pulse 120. A large boggy tumor was felt in the upper left hand side of the abdomen, which was thought to be a fecal impaction. A large enema was given, the bowels moved several times, and the tumor seemed to disappear. His suffering and pain, however, greatly increased, his pulse became more rapid, his temperature went down. He was frequently in a profuse sweat. Thursday morning he was in worse condition. The abdominal pain was great and paroxysmal, the temperature remained low and the pulse high. Late Thursday afternoon the vomited matter became fecal. I saw him at midnight. His extremities were cold, his abdomen distended, his pulse almost indistinguishable; he vomited at intervals; his intellect was clear, and he directed his own affairs knowing that he was in a dying condition. An area of dullness filled the upper left side of the abdomen and extended as low as the pelvis. His little flat was only a few blocks from the hospital, and he was carried there on a stretcher, where he arrived at 1 a. m. He had not vomited during the transportation, but on placing him on the operating table he vomited again and died in five minutes.

A necropsy made at once showed an accumulation of bile-stained fluid in the upper or cephalic peritoneal cavity, extending downward in the left retrocolic space as far as the sigmoid, amounting to at least three or four pints. The gallbladder, which contained a large clove-shaped stone, had a necrotic, ragged perforation in its cervical portion apparently directly over the stone. Its external surface was covered with gray-green fibrin, and clots of greenish fibrin floated in the effusion. There was no general periton-

itis and no perforation in the stomach or evidence of other disease.

In the case of a celebrated business man of Chicago, rupture occurred, after nearly thirty years of recurring attacks of acute cholecystitis, less than two hours after the beginning of the fatal colic.

A long respite from colic is no indication that the disease has disappeared or that the next attack may not be attended by disaster.

The influence of traumatism in precipitating a rupture of the gallbladder is very well recognized in cases where the rupture occurs at once as the result of a blow, a fall, or the lifting of a heavy weight. When the abdomen is run over by a heavy cart or crushed between car couplers, the rupture of the gallbladder is frequently a grave complication of other injuries. When the bile is free from infection, the peritonitis is self-limited and reparative; the absorption of the bile by the extensive peritoneal surfaces produces jaundice, which may complicate the diagnosis.

In cases of cholecystitis even a slight injury, a jolt, a blow, a sudden muscular action may produce impaction of the stone in the cystic duct and the initiation of a biliary colic. This colic may go on with distention of the gallbladder until the viscus ruptures. A traumatism may initiate a deformity in the duct or result in a hemorrhage into the gallbladder which is the starting point of a calculus and the means of localizing infection in the gallbladder. Thus, in one case at least in my own observation a blow over the epigastrium was followed by severe reaction, the symptoms of hemorrhage, and ten years later, during an attack of biliary colic, a single gallstone, 1 c.m. in diameter, was discovered, in the nucleus of which was the evidence of an old hemorrhage. Kehr, *Münchener Medicinische Wochenschrift*, 1898, page 1201, suggests that in certain cases cholecystitis is an occupational disease. There is no doubt that certain injuries, attitudes and habits tend to deform the duct and injure the gallbladder and otherwise precipitate infection; but no particular class of people and no particular occupation seems more liable than others to cholecystitis.

Rupture of the gallbladder into an attached hollow viscus is one of the most hoped for terminations of the expectant treatment. It is a fact that in many cases of cholecystitis the cystic peritoneum over the stone becomes inflamed and attaches itself to the duodenum, the stomach, the colon, the abdominal wall, the round ligament of the liver, the perirenal peritoneum, the pelvis of the kidney, or the ureter, or a small intestine, and the stone and the content of the gallbladder produce pressure atrophy in the adjacent tissues with the ultimate discharge of the stone and pus into these neighboring parts. The duodenum is the most intimately connected with the cystic duct and the neck of the gallbladder, against which it naturally lies. It is probable that stones perforate the duodenum oftener than the other viscera. Sometimes more than one channel is made by the perforating infection, and more than one sinus is found at the necropsy. When connective tissue spaces, such as the round ligament of the liver, receives the infection and the stone, the discharge of these pathologic elements may be found at great distances from the gallbladder. They appear at the navel; they descend the urachus into the urinary bladder; they perforate the diaphragm and produce an accumulation of pus in the pleura, the pericardium, or enter the bronchus of an attached lung. They dissect down the rectus, and the gallstones are discovered in an abscess in the groin, or they are removed in a perirectal abscess, or a pelvic abscess in females. They may even be found in a hernial sac, or may be coughed up or vomited from the trachea or esophagus. The pathology of a rupture into an adjoining viscus is practically the same in all cases, and the danger of awaiting such an event is emphasized by the danger of a peritonitis, the natural complications of the event in itself, and the unknown deformities which may result should a spontaneous recovery follow.

Pressure and partial or complete obstruction of an adjoining passage by the distended gallbladder or cystic duct is an event of relatively common occurrence, which is diagnostic at times and at other times confusing to

the observer. The duodenum is naturally most often interfered with by the pressure of the stone in the cystic duct or by the general distention of the neck of the gallbladder, and this obstruction initiates a circle of symptoms and reactions which often end in vomiting and, if we consider the longer course, in ectasia of the stomach. This must be looked upon as almost a natural consequence rather than as a complication of cholecystitis, and it gives rise to one series of most unfailing diagnostic symptoms.

Pressure upon the hepatic or upon the common duct by a stone in the cystic duct, by the distended neck of the gallbladder, by a lymphadenitis of the lymph glands, or by a phlegmonous infiltration of the tissues about the cystic duct, produces an obstruction to the exit of bile from the liver, and gives rise to jaundice, enlargement of the liver, and cholemia, which may confuse the diagnosis and complicate the treatment. In some cases even this is so gradual in its onset, so unvarying in its course, and accompanied by such emaciation, loss of strength and concomitant symptoms, as to deceive the most critical into a diagnosis of carcinoma. Such a case was reported before the Chicago Surgical Society by Dr. L. L. McArthur.* It most perfectly illustrates the difficulties of diagnosis and the complications of treatment.

In July, 1901, he had occasion to make as a last resort an operation upon a patient in the practice of Dr. Henry Favill. This patient had been seen by von Jaksch, in Prague, who had made a diagnosis of malignant disease and sent him home immediately to die, without thought of operation. When the patient reached Chicago he was seen by Dr. Christian Fenger. The diagnosis of malignant disease was confirmed, and "hands off" was the verdict. This patient was in that terrible condition which obtains after six months' persistent jaundice. In addition to an enlarged and hardened liver he had extreme ascites. On reviewing the history with Dr. Frank Billings and Dr. Favill, they suggested that as a last resort an exploratory incision at least be made, and, if a stone be

*Annals of Surgery, May 1902, page 666.

found, the patient be given some relief by a cholecystectomy or cholecystenterostomy. In the face of an otherwise fatal issue, and recognizing the danger of hemorrhage, the patient requested the operation. A quick exploration of the gallbladder was made. It was found packed with stones, with one large barrel-shaped stone plugged in the cystic duct. The patient died on the third day after the operation. A partial postmortem examination revealed on the margin of the liver, at a point close to the gallbladder, a small tumor the size of a hazelnut, which was removed for examination and pronounced an adenoma. But no malignant disease of the liver, the duodenum, the stomach or the pancreas was seen. This is not an exceptional observation. Before the same Society, Dr. James E. Moore, of Minneapolis, reported a similar case, and Dr. McArthur himself had seen ascites associated with stone in the cystic duct.

It will be noticed that in this case, which was easily remediable in the early chronic stage of the disease, during which without doubt the diagnosis of cholecystitis had frequently been made, there was no obliteration of the portal vein by thrombosis, but simple obstruction, giving rise to ascites. The barrel-shaped stone not only obstructed the portal vein, but it partially obstructed the common duct, and produced dilatation of the biliary tracts in the liver, with all those changes which accompany biliary stasis and cholemia. The study of the anatomic relations between the cystic duct, especially the cystic duct distended and filled with the stone and crowded out of its normal position by an hypertrophied and congested liver, and the immovable vertebral column, and the intervening portal vein, common duct, hepatic artery, and pancreas, makes the mechanical ascites and mechanical jaundice perfectly intelligible. The reason that the hepatic artery or the duodenal branch of the hepatic is not obstructed so as to give symptoms depends upon its rigidity and the free anastomosis with the gastric and the duodenal branch of the superior mesenteric.

Pressure of a stone in the cystic duct or

upon the portal vein, or an extension of an inflammation from the neck of the gall-bladder into the tissues about the portal vein, may give rise to mechanical obstruction or to thrombosis of this channel, with the serious consequences of this accident, namely, ascites and gangrene of the ileum. It is a condition, however, which is perhaps more commonly attendant upon or coincident with a cholelithiasis. It can scarcely be looked upon as remediable, either by internal medication or surgical operation. The symptoms of the condition are not prognostic of the terrible calamity, and little or no warning is given to arouse either the patient or the physician to the likelihood of this dire event. Rixford reports the following case:

A man 53 years old, and weighing 225 pounds, had suffered more or less from abdominal trouble for eight years. Three years ago he had a severe attack of biliary colic, in which he is said to have passed a number of stones. Since that time he has had more or less continuous pain in the abdomen just below the point of the stone. One morning he had a sudden pain just below the umbilicus, so severe as to lead him to take a large dose of morphine. He had no chill, but he vomited after taking the morphine, and his pulse that day was 90 and his temperature 99. The next day his pulse was 100 and his temperature 100. There was spasm of the abdominal muscles, especially in the region of the appendix, and great local tenderness. The third day his pulse was 120, and his temperature 100. By night the pulse had risen to 128 and the temperature to 100.5. On the morning of the fourth day his pulse was 144, his temperature 100; there was great tenderness over the lower half of the abdomen, mostly upon the right side; there were 11,400 leucocytes; some jaundice was present; the peritonitis seemed to be centered about the appendix; there was complete obstruction of the bowels, with no passage of feces or gas for three days, and the patient had the Hippocratic look. Under general anesthesia the abdomen bulged noticeably upon the right side, and a tumor could be felt in this region. An incision on the

external border of the right rectus showed a loop of small intestine twelve inches long completely gangrenous and an equal blue and congested portion on each side of it. This condition of the bowel was not due to hernia, torsion or volvulus. The incision was extended upward, and the gallbladder found to contain a number of calculi. In order to remove the piece of intestine the mesentery was incised. It did not bleed. Thrombosis of the superior mesenteric artery or one of its branches was diagnosed. Instead of typical resection of the bowel the gangrenous portion was removed, and the congested portions left outside the abdominal wound. This course was chosen in preference to a resection because the patient was in poor condition to endure a protracted operation, and there was no line of demarcation between the sound and the diseased gut. The patient died the next day, and the necropsy showed a thrombosis of the principal tributary of the portal vein.

The intimate relations between the neck of the gallbladder, the cystic duct, the common duct and the portal vein are well recognized. Just how this partial obliteration of the portal vein and the congestion necrosis of the intestine took place the necropsy failed to show.

Pressure upon the hepatic artery, producing anemia of the liver or aneurysm of the artery, is a rarer complication. The pressure acts rarely alone, but usually is attended by infection, with coincident involvement of the common duct or portal vein. Obstruction of the mesenteric artery, the pancreatic duct, the receptaculum chyli, and the vena cava are each of them parts of an epigastric hurricane, in which a single lesion is apt to be overlooked. Only as a residual lesion can any of these mishaps come to surgical treatment.

Attachment of a gallbladder or cystic duct to adjacent viscera by old adhesions is productive of grave maladies and painful lesions difficult to diagnose and amenable only to exploratory incision and surgical repair. When a gallbladder has discharged itself of its con-

tent into the stomach, the duodenum, or the colon, the condition of the patient may be no better, and even worse, than before the fortuitous cataclasm. Even adhesions which occur in the process of a relatively mild cholecystitis and pericholecystitis may be deforming to the stomach or duodenum, to the common duct or the vascular apparatus, and either produce ectasia of the stomach, hour-glass contraction of the stomach, insufficiency of the muscular wall of the duodenum, torsion or aneurysmal dilatation of the blood vessels, or obstruction of the lymph channels. The diagnostician must always bear in mind that these adhesions give rise to pain, to obstruction, to the secondary manifestations of cholelithiasis, producing a picture which is almost indistinguishable from that of a true progressive disease of the gallbladder.

As a result of cholecystitis the gallbladder may be found in any part of the abdomen. It was approached by no less a clinician than Lawson Tait in the expectation of finding an ovarian tumor. It has been found to fill the whole right side of the abdomen and thus mistaken for a cyst of the right kidney. It is sometimes completely buried in adhesions and drawn by their contraction from its legitimate position to the left side of the abdomen. It may be found under instead of over the transverse colon, thus making the distention of the colon a sign of no diagnostic value. It may be contracted to a parchment-like mass covering a stone in the cystic duct, or it may be distended in one direction or another, or in two or three directions, in such a manner as to produce diverticula which resemble accessory gallbladders.

With the symptoms of a cholecystitis a lymphadenitis appears in the lymph glands to which the gallbladder is tributary, and this infection may go on to suppuration. The secondary lymphadenitis remains after the subsidence of the primary disease, and has occasionally been recognized and successfully treated.

Carcinoma appears in the diseased gallbladder, the cystic duct, or their adnexa, with a frequency which is so high that it has been

suggested as an additional indication for cholecystectomy. It is likely that carcinoma of the gallbladder is preceded in every case by cholecystitis and the irritation of gallstones. In 80 to 90 per cent of necropsies upon such patients the evidence of a preceding cholecystitis has been discovered, either in the presence of stone or in fistula or deforming adhesions indicative of a primary disease. In two cases at least where cholecystostomy has been performed carcinoma has subsequently been discovered, and these events have been used as arguments for cholecystectomy as against cholecystostomy in disease of the gallbladder. The fact that the early diagnosis of carcinoma of the gallbladder is impossible, and that there is usually a decade or two of cholecystitis before carcinoma arises, relieves the surgeon from any responsibility for the absolute impotency of his art.

We are not so much interested in the absolute frequency of these complications as we are with their inevitable sequence and the special disasters which threaten the patient. Thus, of all the hopes for relief which the luck-trusting physician depends upon none is so rare as the perforation of the gallbladder into an adjoining colon and the discharge of the stone with the feces. The possibility of this rupture, however, any time in the course of a violent biliary colic is one of the most patent indications for cholecystectomy or cholecystostomy. Without the slightest warning, and in the course of a biliary colic more insignificant than usual, a perforation of an infected gallbladder is likely to occur. While this is a relatively rare accident, it is of no small importance, and the fact that it appeals very strongly to the mind of the patient and physician leads me to present it first in my list of complications and as a part of the natural course of the disease.

A most common event in the course of cholecystitis is the advance of the stone into the common duct. This event initiates a disease of such gravity and with such complicated and pronounced symptoms, that it is

necessary to treat it in an article by itself. Here we shall only refer to the general facts most prominent and suggestive. As soon as the stone escapes through the last curve of the cystic duct, it comes into elastic tissues which make up the wall of the common duct, and generally finds for itself a roomy canal, in which it advances from day to day or week to week until it meets some natural or artificial obstruction. The first strait through which it passes is the muscular wall of the duodenum. This gut is perforated on its dorsal side by a longitudinal slit through the muscular fibers, and admits the common bile duct and the larger pancreatic duct at the same place. This muscular buttonhole offers more or less obstruction to the stone, but it eventually, through the distention of the duct with the bile behind the stone, gives way and allows the stone to fall beyond the valve, which separates the pancreatic from the common duct, into the pouch now produced in the mucosa of the duodenum known as the Ampulla of Vater. Here the stone frequently lies until by the production of connective tissue in the wall of the duct, or through the edema and atrophy of the mucosa, it completely obstructs the outlet and symptoms are initiated. This simple recitation hardly gives any idea of the anguish, dangers and catastrophes which threaten the patient at every stage of its progress. The stone passes the outlet of the pancreatic duct and obstructs the flow of the pancreatic secretion. Worse than this, it drives itself forward until the pancreatic duct is opened to the pressure of the bile behind, which may or may not be infected with the residue from the infected gallbladder. These secretions are driven into the dilated pancreatic duct, and a pancreatitis of one form or another is initiated. At any point in the course of this stone through the stormy two and a half inches it may produce an atrophic necrosis of the wall of the duct, or a pericholangitis, which may terminate in a general peritonitis or in such adhesions to the pylorus, the duodenum or the stomach as to cause obstruction and initiate this terminal cataclysm.

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

OCTOBER, 1905.

NEXT ANNUAL SESSION, SPRINGFIELD, MAY 17, 18, 19, 1906.

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BANQUET TO DR. SENN.

We understand that early in November at the suggestion of the profession of Chicago the entire country will unite in tendering a banquet to Dr. Nicholas Senn as a token of appreciation of the valuable services Dr. Senn has rendered to medical science in the past 38 years. The propriety of thus honoring its distinguished members which was inaugurated some five years ago by the Chicago Society when a banquet was given to Christian Fenger will be conceded by everyone. The exact details of this function which will take place early in November will be given in our next issue.

IS THE AUTOMOBILE ADAPTED TO THE WORK OF A PHYSICIAN?

The autocar has evidently come to stay and especially during the season now coming to a close has been used by a large number of our readers. Some of them report favorably concerning the machine and we are desirous of hearing from a great many giving the first cost, the cost of maintenance, the type of machine used and its adaptability to the work. This month we print items concerning two machines. May we not hear from at least a dozen within the next ten

days. Give your brethren the result of your experience.

A NEW JOURNAL IN CHICAGO.

We have received from the Publisher, Frank S. Betz of Hammond, Ind., a copy of the Journal of Physical Therapy, edited by Dr. Gustavus M. Blech of Chicago. The avowed purpose of this publication is to diffuse knowledge concerning such physical agents as the faradic, galvanic and static currents, the Roentgen Rays, the ultra violet rays, the physicians hands or special machines for the administration of massage, vibration and gymnastic exercises, apparatus for the production of active and passive hyperaemia, etc. We welcome the Journal and hope it will have a wide influence for good.

INSPECTION OF PROVISIONS AT THE CHICAGO STOCK YARDS UNDER GRAVE SUSPICION.

The Chicago health department bulletin in its issue of September 23d makes the following statements regarding the inspection of provisions in that city. That part of it relating to the government inspection is remarkable and disgraceful. Our strenuous President should bring his big stick with him and look into this matter. It is just now more important than digging the Panama ditch.

Early in his administration the present commissioner directed his attention to the food inspection work of the Laboratory. Effort was first concentrated, with all available resources, upon the food supplies of the "Ghetto" district—its meat, fish, vegetables and fruit; and then upon the South Water street commission houses. The results have already been given to the public in the Bulletin and in the columns of the daily press.

More recently the Union Stock Yards and neighboring slaughter and packing houses have received attention.

During the last two weeks the two inspectors at the stock yards—the entire available force for this work—have condemned and destroyed 242 cattle, 503 hogs, 31 sheep, and 9 calves,

being a total of 202,901 pounds of meat unfit for human food, but ready to be offered for sale to the citizens of Chicago.

The principal causes of condemnation and destruction were such diseases as tuberculosis, pneumonia, "lumpy jaw," Texas fever, jaundice, necrosis, cholera, pleurisy, uremia and anemia, and other causes were emaciation, asphyxiation, bruises, killed by trampling ("downers"), etc.

Among these animals were six cattle that had been passed by the government inspectors. Two cattle were found last week by the department inspectors that had been passed by the government inspectors, after the evidences of tuberculosis had been trimmed out. The city inspectors destroyed these cattle.

The government inspectors refused to allow the city meat inspectors to remove glands, and other organs suspected of being diseased, for the purpose of microscopic examination by the laboratory bacteriologists.

Following is a comparative statement of the work done by the laboratory inspectors during the week, and during the corresponding week of last year:

	1904.	1905.
Calves	21	67
Hogs	19	307
Cattle	4	93
Sheep	3	14
Dressed meat, pounds.....	46	5,001
Peaches, baskets.....	102	3,165
Fruit, crates.....	27	963
Markets inspected.....	12	195
Complaints adjusted.....	8	24
Total pounds of meat condemned..	2,002	173,769

Two important facts stand out prominently in the foregoing statements:

First. The absolute necessity of continuing and extending food inspections if Chicago is to make any further betterment of a health record of which every citizen may be justly proud. The improvement of the milk supply and of the water supply is creditable. But the above figures show the quality of the food supplies generally to be not only discreditable, but positively dangerous.

It is notorious that death rates are highest among the poor and especially among the children of the poor. It is equally notorious that it is the poor who are the most numerous purchasers of cheap foods, and such foods as would be condemned on inspection are, of course, sold at cheap rates if allowed to be put on the market.

The purchaser is the sufferer at both ends—pocket and stomach. He is defrauded in the nutritive value of the flesh of emaciated, anemic, asphyxiated animals, and he is exposed in health and life by eating the flesh of diseased animals, tainted fish, stale vegetables and rotting fruit. Even if not actually made sick, his vitality is lessened and his working force impaired.

It is not the rich and well-to-do who need this protection, but the poor and those of moderate means.

The second fact is almost too obvious to need stating. An increase of the food inspection force of the health department is imperatively necessary.

IMPORTANT CHANGES IN THE U. S. PHARMACOPOEIA, EFFECTIVE SEP-

TEMBER 1, 1905.

Prescribers should specify "U. S. P., 8th Revision," or "U. S. P., 1890," as the case may be, in writing prescriptions containing Pharmacopœial substances, thereby preventing a possible error on the part of either prescriber or dispenser.

Particular attention is directed to the following changes:

	New average dose.
Liq. Ferri et Ammonii Aceta. (Basham's Mixture)..... 2% to 4% Iron	4 fl. drs.
Syrup Ferri Iodidi..... 10% to 5%	15 min.
Tinct. Aconiti..... 35% to 10%	10 min.
Tinct. Cantharidis..... 5% to 10%	5 min.
Tinct. Capsici..... 5% to 10%	8 min.
Tinct. Strophanthi..... 5% to 10%	8 min.
Tinct. Veratri..... 40% to 10%	15 min.

The following Preparations have been INCREASED in strength:

	U. S. P., 1890.	New Revision.
Extract. Opii, avrge dose 1-2 gr....	18%	20%
Liq. Ferri et Ammonii Acetat. (Basham's)	2%	4%
Liq. Ferri Tersulphatis.....	28.7%	36%
Tinct. Aurantii Dulcis (Sweet Orange)	20%	50%
Tinct. Calumbæ.....	10%	20%
Tinct. Cantharidis, avrge dose, 5 min..	5%	10%
Tinct. Capsici, avrge dose, 8 to 10 min.	5%	10%
Tinct. Cardamomi.....	16%	20%
Tinct. Cinnamomi.....	10%	20%
Tinct. Quassiae.....	10%	20%
Tinct. Rhei.....	10%	20%
Tinct. Serpentariæ.....	10%	20%
Tinct. Strophanthi, avrge dose 8 to 10 min.	5%	10%
Tinct. Tolutana.....	10%	20%

The following Preparations have been DECREASED in strength:

	U. S. P., 1890.	New Revision.
Liq. Ferri Chloridi.....	37.8%	24%
Syrup. Ferri Iodidi, avrge dose, 15 min.	10%	5%
Tinct. Aconiti, average dose, 10 min.	35%	10%
Tinct. Belladon. Foliorum, average dose, 8 min.....	15%	10%
Tinct. Benzoina Comp.....	12%	10%
Tinct. Cannabis Ind.....	15%	10%
Tinct. Colchici Sem., average dose, 30 min.....	15%	10%
Tinct. Digitalis, average dose, 15 min.	15%	10%
Tinct. Gambir Compositi (Catechu Comp.).....	10%	5%
Tinct. Gelsemii, average dose, 8 min....	15%	10%
Tinct. Hyoscyami.....	15%	10%
Tinct. Kino.....	10%	5%
Tinct. Lobelia.....	20%	10%
Tinct. Nucis Vomica, average dose, 10 min.....	0.15%	0.1%
Tinct. Opii.....	1.3% to 1.5% Morph.	1.2% to 1.25% Strychn'e Morph.
Tinct. Opii Deod.....	1.3% to 1.5% Morph.	1.2% to 1.25% Morph.
Tinct. Physostigmatis.....	15%	10%
Tinct. Sanguinariæ.....	15%	10%
Tinct. Scillæ.....	15%	10%
Tinct. Stramonii.....	15%	10%
Tinct. Veratri, average dose, 15 min..	40%	10%
Ung. Sulph.....	30%	15%
Vin. Colchici, average dose, 30 min..	15%	10%
Vin. Ergot.....	15%	10%

HEALTH AND PLEASURE RESORTS OF THE WEST.

Southern California by which we mean all that part of the State lying south of San Francisco has long posed as a sort of American Italy and for many reasons deserves the appellation. Certainly the enterprising and progressive citizens of this part of the Pacific slope have created some beautiful centers and the surroundings and climate annually draw many thousands of delighted tourists from all over the world.

Before speaking of the south it might be well to mention San Francisco and to warn invalids away from it especially in the summer months which we were told were the most disagreeable of the entire year. One

week in last July was remarkable and unusual because of the torrid heat and the following weeks were no less disagreeable for visitors because of arctic cold which prevailed making it necessary to wear furs and overcoats out of doors and to turn on the steam in the radiators of the hotels. The fog which was all but constant during our visit made us think of London which is renowned the world over for having the most disagreeable climate on the foot-stool.

Los Angeles is probably the greatest tourist and health center in the State. This city which had a great boom beginning about 1885 and collapsing in 1889 is again afflicted with an epidemic of insanity regarding land values which of course must sooner or later be succeeded by a relapse to reason and the ruin of the dreamers who are now tempting fate. Were it not that this mania seems to strike the weak and the strong, the "lunger" and the robust alike we would not mention it but after learning that a young lady of Zanesville, Ohio, who went there for pulmonary tuberculosis had become a real estate speculator and was rapidly becoming independent from her investments at the rush sales, we feel that silence on this subject would be wrong. Fancy the effect on the tissue changes that would be wrought in a delicate subject by attending one of the sales. The enthusiasm of some of the "angels" about their city is something remarkable and we are tempted to relate a story about this city of 125,000 that according to bill boards is going to have "250,000 inhabitants in 1910 on which date property will be certain to be worth three times what it can be purchased for at this time." The particular person of whom we write had lived in Los Angeles as much as a week, having gone there to recruit a damaged lung and as everybody else seemed to do had be-

come fascinated with the place. "I suppose," said I to him, "you expect to live to see this city have 500,000 people, do you not?" "I don't know about that" said he "but I am perfectly certain it will have a million in less than ten years." They were issuing a new directory when we were there which showed we believe something like 600 physicians and 1,200 real estate agents resident in Los Angeles. How they all manage to live no one was able to explain to us. But what about the consumptive? We must not forget him in our praise or criticism of American Italy. The more we saw the more we are inclined to say to our Illinois physicians. "Keep your tuberculous patients and treat them yourself along modern scientific lines as exemplified at the Ottawa colony." A small per centage may be benefited by residence in California. A large per centage will not be benefited by a trip there and therefore according to the law of general averages none should go.

Correspondence.

A QUESTION OF ETHICS.

August 14, 1905.

Editor Illinois Medical Journal,

My Dear Doctor: I beg to ask your opinion on the ethical aspect of the enclosed letter. It explains my situation quite well. I recently came here and wish my presence and line of work known to the public of this county. In your opinion, would the letter, if printed and sent to the teachers violate the ethics of the state society.

The little charts mentioned are small copies of Snellen's Test Type or similar ones with my professional card on back thereof. I trust I am not imposing on you and beg to thank you for an opinion.

My Dear Sir: I have located in this city to follow my profession and shall pay especial at-

tention to defects of the eye, particularly to the fitting of glasses.

In order to get my business before the public I beg to call your attention to the following offer which I am making to the teachers of this county:

Should you be able to send me a patient to be fitted with glasses I will make you a present of a first class botany glass, such as usually sells for 50 cents. This present is due you as soon as the patient is properly fitted and has paid his bill. Should you send more than one you may select from my catalog goods to the amount of the several credits or apply on work for yourself.

In sending a patient you should notify me at the time, otherwise I would not know you were entitled to any credit or others might claim it.

Are you safe in sending work to me?

I know I am a stranger to you and all I need say is, that I came here to make my home and build a practice. Only honorable treatment and good work will do it.

At the institute here I gave a neat eye chart to each teacher for his school room. If you have not one I shall be pleased to send it for the asking. Your superintendent, Miss ———, recommended them as did the instructors.

I shall have smaller test cards which you may distribute to each family and thus get several credits without any undue effort.

This communication was referred to Dr. W. O. Ensign, Chairman of the Council, who sent the following reply:

THE QUESTION ANSWERED.

Geo. N. Kreider, M. D., Editor,
Springfield, Ill.

Dear Doctor:

Yours of the 25th inst. at hand this morning and mentions that *ethical question* again, which other matters had delayed at this end of the line.

I herewith return the documents sent and a reply, but the wisdom of publishing the inquiry and circular letter of Dr. ———, or the enclosed reply, or any part of it, I must leave wholly to your judgment. In such reply I do not speak by the authority of the Council, hence omit *Chairman* to the signature.

If published it would be proper to omit the name of Miss ——— in the circular letter.

Very truly yours,

Wm. O. Ensign.

Editor Journal:

Of the above communication referred for reply, it may be said:

The foregoing inquiry and proposed circular letter constitutes a fair sample of a class of communications not unfrequently presented to the attention of members of the Council during each year. A very considerable proportion of such inquiries bear evidence of candor and a sincere desire to become correctly informed on the subject in question, while not a few appear to betray indications of a brief professional experience on the part of their authors.

The inquiry: "In your opinion would the letter if printed and sent to the teachers, violate the ethics of the State Society?" constitutes a candid question and is entitled to a like response, and may here and at once be given a distinctly affirmative answer.

The motives and purpose of the inquirer are made quite clear in—

1st. His expressed wish to make his "presence and line of work known to the public of this County."

2nd. "In order to get my business before the public."

3rd. "To make a home and build up a practice."

Objects by no means reprehensible or unworthy, and he reasonably concludes as to the latter that "only honorable treatment and good work will do it."

But what of the methods and conditions suggested to that end, in the proposed circular letter to the teachers. "Should you be able to send me a patient to be fitted with glasses, I will make you a present of a first class botany glass." This is a thoroughly commercial proposition, and is fortified by most exact conditions as to its fulfillment. "This present is due you as soon as the patient is properly fitted and has paid his bill," thus requiring of the teacher that he not only secure the patient but that he become an interested party to the successful fitting of the glasses as well as to the payment of the patient's bill.

If parties who are tempted to seek undue methods of calling the attention of the public

to themselves and their branch of the profession would stop for a single moment to consider that such means, if proper for themselves, must be equally so for every other physician in the same locality, they would doubtless many times hesitate before adopting or employing anything of the kind. As an illustration; there are about fifteen other registered physicians in the city, or fifty-five in the county, from which the above inquiry emanates. Each of the number at the same time following along similarly proposed lines, in an effort to secure the attention and patronage of the public, must create such conditions of pernicious activity in that community, as could not result otherwise than in bringing discredit and disgrace upon the entire medical profession, and the complete loss of the respect and confidence of the people in the locality in which they reside.

Passing over at this time the fact of the injustice of such questionable methods on the part of the few toward the equally intelligent, capable and deserving physician, who wins his way to a creditable place in his profession and the respect and confidence of the public by commendable means only, it might be well to here present a few extracts from the "Principles of ethics of the American Medical Association," of which body the Illinois State Medical Society constitutes a component part.

Chapter 1. Art. 1. Sec. 1. "Every one entering the profession, and thereby becoming entitled to full professional fellowship, incurs an obligation to uphold its dignity and honor, to exalt its standing and to extend the bounds of its usefulness."

Sec. 3. "Every physician should identify himself with the organized body of his profession as represented in the community in which he resides."

Sec. 7 "It is incompatible with honorable standing in the profession to resort to public advertisements or private cards inviting the attention of persons affected with particular diseases."

Art. VI. Sec. 4. "It is derogatory to professional character for physicians to pay or offer to pay commissions to any person

whatsoever who may recommend to them patients requiring special or general treatment or surgical operations."

The foregoing quotations serve sufficiently to make it clear that such circular letter to the public, or any part of it, as the inquirer presents, would be a violation of the ethics of the medical profession and not calculated to uphold such profession's dignity or honor.

Incidentally it is further shown to be the duty of every physician to identify himself with at least the local professional organization of the vicinity in which he resides, which organization is usually the county medical society.

In connection with this latter fact, it might be suggested that to such all propositions of similar character might be wisely submitted with the assurance that if they should there meet with the approval of the better portion of the local profession, as is usually to be found in such organizations, they would be very likely to bear the test of due propriety and professional justification and would then doubtless be deemed to be neither unworthy, unjust or not ethical in the estimation of the general medical profession.

Very truly yours,

Wm. O. Ensign.

CASS COUNTY MEDICAL SOCIETY MORIBUND.

VIRGINIA, ILL., Sept. 5, 1905.

Editor Illinois Medical Journal,
Springfield, Ill.

Dear Doctor: In reply to yours of the 2d inst. will say. It was intended that the County Medical Society should have charge of the afternoon exercises in the teacher's institute, but at the last moment the Physicians, with the exception of two failed to appear, so it was not a society meeting, only two were heard. I was in hopes we could report an excellent meeting but can not. I much fear we, as a society, are dead. It seems impossible to get anyone to take any interest in it. We cannot get them to attend.

Yours respectfully,

J. A. McGEE, *Secretary*.

THE AUTO AS A BUSINESS PROPOSITION FOR THE DOCTOR.

I have found my Auto a great convenience in my practice, enabling me to answer calls more promptly than should I have driven a horse. I can also save a great deal of time in making calls, which allows one more time for office work.

My running expenses and repairs will amount to about one hundred and fifty dollars (\$150.) A great deal of my expense account was unnecessary, which fact I have only learned after becoming better acquainted with the car.

I shall continue to use the Auto in my practice.

For doing country work alone, in this part of the country, I hardly consider the Auto practicable.

The Auto as a business proposition (professional) is not at present satisfactory or remunerative; but to consider the business side and enjoyment of operating a car, the combination is a pleasure I would not be deprived of.

Respectfully,

F. E. NORTH.

Taylorville, Ill.

THE LAW DISCRIMINATES AGAINST PHYSICIANS.

YORKVILLE, ILL., Sept. 18, 1905.

Editor Ill. State Med. Journal.

Springfield, Ill.

Dear Sir: No doubt your attention has been called to the following injustice, but it has very forcibly been brought to my notice recently.

A servant sickens with acute pneumonic tuberculosis and dies, in a county under township care of the poor. When taken sick he sends for a physician who objects to taking charge of the case on account of poor pay. The employer makes the statement that the young man has property amounting to \$175. The physician accepts the case and the boy dies. The employer is appointed administrator. The undertaker furnishes a casket which does not cost him to exceed \$20.

His bill is something like \$75 and it being considered first class in the eyes of the law is paid in full. So on down the list to the so called third class of claims which consists of the expense of the last illness "*not including the physicians charge.*" A bill for care during the last illness is filed by the employer-administrator and is paid in full. Absolutely nothing is left the physician and he is left without any resource for collecting his bill.

Now why are the undertaker's services more important than the physician? Why the discriminating clause in the third class "*not including the physician's charge?*" Could not our committee on legislation who are doing such good work and of whom we are proud, take steps to have this rank discrimination effaced from the law and give the physician at least an equal chance with the undertaker?

Fraternally,

F. R. FRAZIER, M. D.

Pres. Kendall Co. Med. Society.

WHY BIRTHS ARE NOT REGISTERED.

Dr. G. N. Kreider, Editor,

My Dear Sir: I enclose a letter that will go a long way to explain non-registration of births.

I have been a physician in this county (Cook) and State for eleven years and never have received one cent for reporting births. Do you think for a moment that a physician is going to give time and expense from his own pocket? I have tried several times to obtain what the law says a physician should have, but never a cent have I received. I remember very distinctly one trip I made to the County building. I was directed to a certain room. There were three persons in the enclosure (paid of course, by the county) apparently not on hand to do. They looked over my reports and said I would have to call in about a week or ten days. At the end of the stated time I called again. No, there wasn't anything for me, I would have to call again. I replied, "I don't propose to be running here for nothing. Can't you send

it—" O, no, you will have to call in person.

Any doctor is a fool to pay any attention to any such laws or requirements.

I have also received a letter from County Clerk Olsen which I will ask you to print (see below.)

Yours very truly,

La Grange, Ill. W. F. DEAN, M. D.

Chicago, October 12, 1903.

Dr. W. F. Dean,
129 Harris Avenue,
La Grange, Ill.

Dear Sir: Replying to your communication of recent date regarding fees due you for reporting births, will state that I am informed by the County Treasurer, that he cannot, at this time, honor warrants upon him for such for the reason that he has no money in his possession available for that purpose.

As an appropriation should be made by the Board of Commissioners of Cook County to provide for the payment of such claims as yours, and as said body have failed to take such action, its attention will be called to the matter.

Very respectfully yours,

Peter B. Olsen,
County Clerk.

Complaint From Chicago Physician That He Is Not Paid His Fee for Reporting Births.

Chicago, Sept. 8, 1905.

Editor Illinois Medical Journal:

Have read Mr. Hugo S. Graiser's statement relative to the report of births. Let me state that I have never succeeded in securing one cent for any birth I have ever reported. I have taken the reports personally in bunches in the hope of securing the fee, but usually since then mail them immediately. Let me state frankly that I believe the graft which appropriates the 25 cent recording fee and beats the doctor is the chief sinner. I would like to know of anyone who ever received a fee.

I dare you to publish this. It is bad enough to be defrauded by the parents out of our confinement fee as we often are here in Chicago without talking about the "outrage." Let the officials tend to their own skirts and keep them clean.

Dr. Newhall,
1127 Racine Ave.

P. S.—Make the fee a \$1.00, so it will be worth while to fight the grafters, I begin to suspect there is a nigger in the field somewhere if it is true as stated.

THE BEST TENT.

To the Editor of the Illinois Medical Journal.

Sir—I write a few lines apropos of "The Use of the Tent in the Treatment of Tuberculosis." After some years experience in

camping, perhaps a word on the subject of choice of tents will not be amiss.

For shape, the Portean tent, made by a citizen of Evanston is nearly ideal. It is about the only type of tent where ventilation in warm weather is possible. It requires but one pole. It will not "blow down."

The question of material is another matter. Duck, from eight (8) ounce to twelve (12) is commonly used in the belief that heavy weight material keeps out the rain. A fly sometimes does the business, but closely woven cotton almost as light as sheeting treated with a preparation of one part paraffine in three of turpentine or the famous "Waterproof Silk" as it is called is the finest thing the writer ever used. Its weight is almost nominal.

Last summer he used a tent of such material so treated. It rained twenty-one nights and not a drop of rain got in the tent. Rubbing against the roof or walls does not affect its water shedding properties.

Respectfully,

C. H. Keogh.

BOOK NOTICES.

Diagnostics of Internal Medicine. A Clinical Treatise upon the Recognized principles of Medical Diagnosis. Prepared for the use of students and practitioners of medicine, by Glentworth Reeve Butler, Sc. D., M. D., Chief of second medical division of the Methodist Episcopal Hospital, Brooklyn, N. Y., with five colored plates and 280 illustrations and charts. Second revised edition. D. Appleton & Co., New York. Cloth, \$6.00.

This classical work which has had such remarkable popularity during the past four years that fifty thousand copies have been sold has reached a second edition and although 100 pages and 40 additional illustrations have been added, the price remains the same. Dr. Butler has grasped the valuable idea of illustrating the diagnosis of diseases and his work is receiving well merited consideration by the profession. We know of no work on diagnosis that can be so heartily recommended to medical students as Butler's Diagnostics. It is almost invaluable.

The Principles and Practice of Medicine, designed for the use of practitioners and students of medicine by Wm. Osler, M. D., Fellow of the Royal Society; Regius Professor of Medicine, Oxford University, etc. Sixth edition, thoroughly revised from new plates. D. Appleton & Co., 1905. Cloth, \$6.00.

Osler's classical work has been copyrighted eight times in the past 13 years; has gained a greater circulation than any practice of medicines ever secured in America; has now reached its sixth edition and undoubtedly represents the high water mark of medical literature in the English speaking world. To know Osler's practice thoroughly is to be acquainted with the best exemplification of modern medicine. As Dr. Osler says in his preface, "So many sections have been rewritten and so many alterations made that in many respects this is a new book." This work embodying the results of his labor at Johns Hopkins University and Hospital, is very properly Osler's valedictory to his American colleagues and as such should be treasured and appreciated by them. It should be found in the hands of all our readers.

CARBONIC ACID IN MEDICINE.

By Achilles Rose, M. D.

12mo, cloth, 268 pages, Price \$1.00, net.

Funk & Wagnalls Company, 44-60 E. 23d St., New York City.

This book aims to set forth the fullest facts about the healing qualities of carbonic acid gas. These beneficial properties were known centuries ago but they strangely passed into disuse until they have now become unjustly forgotten.

News Items.

Dr. Jethro Davis, of Sciota, has removed to Raritan.

Dr. J. W. Veatch has removed from Cornell to LaSalle.

Dr. C. W. Talbott has removed from Secor to El Paso, Ill.

Dr. W. B. Gardner of Loami has returned from Portland, Ore.

Dr. Milton R. Walter of Baltimore, Md., has removed to Chicago.

Dr. Van Horne of Jerseyville, has sold his apple crop for \$2,000.

Dr. W. Y. Herrick of Lytton, Iowa, has located at Dixon, Ill.

Dr. B. F. Forrest has removed from Forrest to Eagle Lake, Texas.

Dr. Hill of Athens is erecting a new residence on the main street.

Dr. Percy Taylor of Springfield and family has returned from Colorado.

Dr. C. A. Stokes, of Edinburg, visited in Nebraska during September.

Drs. C. M. Bowcock and Walter Ryan have been visiting in Rochester, Minn.

Dr. C. F. Voyles of Murdock, Douglas Co. has removed to Rochester, Minn.

The residence of the late Dr. G. W. Fringer at Pana was sold recently for \$5,000.

Dr. J. R. Trigg, formerly of Farmersville, is practicing in Oklahoma Territory.

Dr. Pierce, of Iuka, formerly of Cornland, has located at Buffalo, Sangamon county.

Dr. Eberspacher of Pana, has returned from a two months tour through the western states.

Dr. La Vern Boyd formerly of Springfield, recently of Baltimore, Md., has located in Edinburg.

Dr. E. S. Spindel, of Springfield, visited the Colorado Health and Pleasure resorts during September.

A Children's Home in Peoria conducted by Mrs. Flynn, is under investigation by the county authorities.

Dr. F. B. Morgan, formerly of Fort Collins, Col., has located at Cornell, having secured the location and practice of Dr. Veatch.

Dr. M. M. Bradley, of Waverly, has purchased property in Chatham and will return to his former location.

Dr. C. C. Webb of Charleston has been spending the summer in Joplin, Mo., looking after his interests in the mines and a drug store.

Dr. E. A. Knodle of Beardstown, sold his practice to A. E. Soule, of Fort Byron. Dr. Knodle has gone to the West for a six months' visit.

Dr. Wilson Stuve, formerly a resident of Springfield, where he was born and raised, died suddenly at Oklahoma City, Oklahoma, September 1, 1905.

Dr. and Mrs. Frank Coppel, of Havana, have removed to California. They were tendered a banquet by the Eastern Star Lodge prior to their departure.

Dr. W. H. Watterson formerly of Chicago, later of Edgewater, Colorado, where he went for his health, has recovered and located in Fox Lake, Wisconsin.

The new consumptive hospital at Dunning, which is considered a model of its kind, is responsible for a marked decrease in the death rate of tuberculous patients.

Supt. Podstata in his report recommends that a small separate ward be constructed for the care of the patients who are hopelessly afflicted with consumption.

During March, April, May, June, July, and August of last year the death rate of tuberculosis patients was 42.52. For the corresponding months this year the death rate was 27.21.

Mrs. J. C. Corbus, wife of Superintendent of the Illinois Eastern Hospital, was stricken with heart disease, August 25, while getting a glass of water for a sick son, and died almost instantly.

Dr. and Mrs. Arthur P. Wakefield of Springfield have been appointed missionaries to China by the Foreign Mission Board of the Christian Church. They will leave for China in September, 1906.

The mortality rate of the city of Springfield for August, 1905, was remarkably low, being 40 in an estimated population of 40,000. As there are undoubtedly nearly 45,000 inhabitants in the city the death rate is nearer 9 per thousand than the 10 per thousand given in the report. The only cases of contagious disease were some cases of scarlet fever, none fatal.

Screen All Tanks.

Every tank in town must be screened according to law. This will include a number of more or less prominent citizens.—New Orleans Times-Democrat.

Canton to Have a Hospital.

The Misses Graham, former residents of Canton, recently agreed to erect a hospital, provided the citizens raised an endowment fund of \$20,000. The business men and residents were canvassed and it was found impossible to raise the money. The Misses Graham were accordingly notified. They have now agreed to purchase the site and erect a hospital at a cost of \$15,000, accepting the amount subscribed as an endowment instead of the \$20,000 originally asked. Construction work will be commenced this fall.

Chicago Items.

Dr. and Mrs. Henry P. Newman have returned to Chicago from Wallon Lake, Mich.

Dr. and Mrs. James I. Stone of 128 Rush St., Chicago, have returned after a prolonged stay in the Adirondacks.

Dr. and Mrs. R. H. Babcock of Chicago, have returned from Green Lake, Wis., and taken apartments at the Virginia.

H. Wolff, of Chicago, was recently prosecuted for violating the medical practice act by practicing without a license, and fined \$200 and costs.

Dr. Arthur R. Reynolds until recently health commissioner of Chicago has accepted the position of medical director of the French Lick Springs Hotel Company of Indiana.

The engagement of Dr. William N. Senn, of Chicago, son of Dr. Nicholas Senn, to Miss Marjorie Lynch of 556 Dearborn Ave., was recently

made by Mr. and Mrs. Thomas F. Mullaney, brother-in-law and sister of the bride.

Dr. Arthur R. Edwards, of Chicago, will deliver the address on medicine at the next meeting of the Mississippi Valley Medical Society, to be held in Indianapolis, Oct. 10, 11, and 12. The subject is "Certain Phases of Uremia, Their Diagnosis and Treatment."

Annie Hill, a Chicago palmist was fined \$30 and ordered out of Sheboygan, Wis., because she charged a Mrs. Joanna Vandyke \$100 for a mysterious powder which she was told to bury in the cellar to enable her to find \$100,000 and a bag of diamonds that the palmist declared were hidden there forty years ago by shipwrecked sailors.

The corner stone of the new Washington Park hospital, Chicago, was laid Sept. 5 by members of the Sophia Aid Society. The structure is being erected in Sixtieth street, between Vernon and Vincennes avenues. The principal address was made by Prof. Jules Mauritzon of Augustana college, Rock Island, Ill. The society is a Swedish charitable organization, and the exercises were the celebration of the first anniversary of its organization. The society now occupies temporary quarters at 6010 Vincennes avenue. The new building will be a three story brick structure and will accommodate 105 patients.

Mayor Dunne's Serious Ailment and His Physician.

T. P. Quinn has diagnosed the case of Mayor Dunne and finds the patient to be suffering from a total lack of backbone. Dr. Quinn, though not regularly in charge of the case, will try to stiffen the patient by giving him absent treatments.—Chicago Tribune.

The Illinois Charitable Eye and Ear Infirmary has acquired 100 feet additional frontage on Peoria street, just north of Adams street, Chicago, for \$20,000, on which it will build a modern fireproof addition to its present building. The recent state legislature appropriated \$75,000 for the acquirement of the land and construction of the building. A deed covering fifty feet on Peoria street from the Lewis institute was filed for record recently. From Amy F. Bond twenty-five feet was purchased and twenty-five from Maj. Blodgett, both at the rate of \$200 a front foot.

STRENUOUS LIFE OF CHICAGO.

Chicago's streets were like a "bloody battle field" during the first six months of the year, according to the figures of the city statistician.

Statistics for the six months ending with June show that 643 persons in Chicago met unnatural deaths and 4,093 were injured. Accidents caused the death of 352 persons and injury of 3,716, the casualties being more than six times the number for the corresponding period last year, when the killed numbered 93 and the injured 553.

Eighty-one persons met death and 995 were injured through personal violence. This is an increase of 50 per cent over last year's figures for the same cause, which were 45 killed and 390 injured. The increase of casualties from personal violence is attributed to strikes.

There were 5,802 charges of violence, as against 5,434 last year, 337 persons being charged with assault with deadly weapons. In addition to the deaths by personal violence and accident, 210 persons killed themselves.

Marriages and Deaths.

MARRIAGES.

Wm. B. Caldwell, M. D., Monticello to Miss Anna Olentine of Paxton, Sept. 20.

Ross L. Motler, Browns to Miss Grace Jones of Princeton, Ind., Sept. 13.

Married at the residence of the brides parents, Mr. and Mrs. C. W. Northup, 231 Waiola Avenue, LaGrange, September 27, 1905, Dr. Herbert C. Dewey and Miss Abbie L. Northup.

James G. Ross, M. D., to Miss Lillian Henak, both of Chicago, August 23.

Married at the residence of the officiating minister, the Rev. Rufus A. Finnell, pastor of the Stuart Christian church, Thursday afternoon, September 28, 1905, Dr. H. Strohl of Wagoner and Miss Eva Grace Gill of Girard.

John Steele Sweeney, M. D., Chicago, to Miss Grace Hamilton of Two Rivers, Wis., August 16.

Charles F. Voyles, M. D., Murdock, Ill., to Miss Hazel Wagner of Newman, Ill., August 16.

Charles Martin Wood, M. D., Decatur, Ill., to Miss Edith Loose of Illiopolis, Ill., September 12.

DEATHS.

Wm. M. Brown, M. D., died at his home in Chicago, Sept. 14, aged 48.

Robert Hugh Cook, M. D., died at his home in Grayville, August 6, after a long illness, aged 73.

W. S. Duncan, M. D., died at his home in Greenup, Ill., August 2, aged 80.

Henry Utley, M. D., died at the home of his son in Sterling, April 27, aged 82.

Ferdinand S. Overfield, M. D., died at his home in Brookville, Ill., August 16, aged 76.

Wm. R. Owen, M. D., shot and killed himself in a church in Minneapolis, August 27, aged about 60. His home was in Sublette, Ill.

Luther E. Stowell, M. D., died in Peoria, August 26, after a long illness, aged 30.

Littleton Thompson, M. D., died at his home in Utica, Ill., August 19, after an illness of four weeks, aged 55.

New Incorporations.

New corporations were licensed by the Secretary of State at Springfield as follows:

Barton Chemical company, Chicago; capital, \$10,000; manufacture medicines, appliances; incorporators, Charles M. Foell, Marvin E. Barnhardt and John R. Perry.

Northwestern Neurological college, Chicago; not for profit; educational; incorporators, Charles L. McDonnell, William Gayle, F. C. Hammond.

Rumo Remedy company, Chicago; capital, \$10,000; manufacture medicines; incorporators, Oscar H. Olsen, William Huber, and Stanislaus Lewandowski.

European Health Institute, Chicago; capital \$25,000; sanitarium; incorporators, Josep Poray Kaczorowski, J. J. Golembowski, and Edward Mucho.

Conklin Salve Company, Chicago; capital, \$1,000; manufacture medicine; incorporators, B. F. Moffat, R. C. Galusha, Fred W. Bentley.

International Society of Advanced Therapeutics, Chicago; hygienic; incorporators, George Rickard, E. P. Marko, Allan A. Wilson.

Looking on the Bright Side.

The doctor had been injured so severely in a street car collision that the surgeons were compelled to amputate his right hand.

"Upon the whole," he said, "it's a lucky accident. Do you know that in the palm of the ordinary unwashed hand there are over 80,000,000 microbes to the square inch? A man in my profession has to meet all sorts of people. I shall get an artificial hand, and hereafter I shall be able to shake hands with anybody with perfect safety."—Chicago Tribune.

Nosology.

"Doctor," asked the caller, "what would you recommend for a disordered liver?"

"My friend," said the old doctor, noting the color of his nose, "I should recommend that he live a more orderly life."

Good Location for Young Medical Men.

"Charles Van Newport's new automobile will seat forty people."

"Great Scott! Did you say forty?"

"Sure. Fifteen doctors, fifteen surgeons, six machinists, two fine settlers, the chauffeur, and Charlie."—Columbus Dispatch.

Another Lie Nailed.

Hamlet was listening to the ghost.

"What a blooming lie it is," he muttered, "that 'dead men tell no tales'!"

Encouraging the ghost to proceed with the grewsome narrative, he struck a Sir Henry Irving attitude and signed to the orchestra leader to turn on the slow music.—Chicago Tribune.

Chicago Medical Society.

The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building.

OFFICERS:

C. S. BACON, 426 Center Street President
FRANK X. WALLS, 4307 Ellis Avenue Secretary
A. E. HALSTEAD, 2937 Indiana Avenue Treasurer
W. A. EVANS, 103 State Street Chairman Medicolegal Committee
WM. HARSHA, 103 State Street Chairman Membership Committee

OCTOBER, 1905.

ABSTRACT OF PAPER READ BEFORE THE CHICAGO MEDICAL SOCIETY JUNE 14, 1905, BY DR. JOSEPH M. PATTON.

Report of a Case of So-called Musical Heart, With Specimen and Photographs.

The case reported was of unusual interest because of the fact that for fifteen years the patient had been observed and examined by probably more medical men than any other individual of which we have record. He was known as "The Man with the Musical Heart." A Russian by birth, 38 years old. An attack of inflammatory rheumatism about 15 years ago left him with the unique cardiac murmur which since that time offered him means of making a living by exhibiting himself. For this attack he was treated in Bellevue Hospital, New York City.

The patient had many written and somewhat fanciful diagnoses presupposing all manner of lesions of either side of the heart. The patient claimed that the murmur was due to a sword thrust, but the scar from the wound was entirely superficial and in no way connected with the heart.

The patient first came under Dr. Patton's observation about 12 years ago, presenting the usual signs of double aortic and double mitral lesions, and in addition a distinctly musical, systolic murmur heard over the precordial area. The diagnosis of that time was in accordance with these findings, the musical murmur being attributed to some abnormal condition of the chordae tendineae in the left ventricle.

The patient was under observation as a clinic, hospital or office patient at various times, and constantly for two months previous to death. The musical murmur disappeared entirely about six weeks previous to death. Cardiac failure was progressive from the time of the disappearance of the murmur. Death occurred on the night of May 30th.

The post mortem (including the heart only) was made immediately after death by Dr. John Fisher. The heart was examined a few hours later by Dr. Fisher and Dr. Patton, and showed the usual changes of double aortic and mitral disease with no unusual measurements. There was a communication between the base of the left ventricle and the right auricle, closed by a papilla at its auricular end, but which could have had nothing to do with the production of the musical sound. There were also chord attachments for the corners of the base of the arterial surface of the aortic valves to the aortic wall. These could not have produced the murmur in question.

Two chordae tendineae attached to the tip of the papillary muscle at the apex of the left ventricle and to the tip of the anterior cusp of the mitral valve, which was much thickened and elongated were broken off at their valvular attachment and lay loose in the ventricle. They were much thickened and covered with fine vegetations.

The sudden disappearance of the murmur before the heart showed serious signs of failure can only be explained by the breaking of these cords, for whether we accept the views of Corrigan, Chauveau, or of Heyncius in relation to the physics of the production of murmurs, it is evident that we cannot apply to this case the basic principle governing the production of ordinary murmurs—that they are primarily vibrations of the blood stream, because of its pitch and harmonic element. Musical murmurs, as a rule, are of more serious import than ordinary blowing murmurs. The author has observed their appearance in several fatal cases of endocarditis shortly before death.

An important deduction to be drawn from this case is that musical murmurs of this character indicate a more extensive degree of involvement of the tissues of the heart than is necessary for the production of the ordinary blowing murmurs.

County and District Societies.

ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

Officers.

President.....Jno. A. Koch, Quincy
First Vice Pres.....J. M. Grimes, Camp Point
Second Vice Pres.....H. Hart, Quincy
Secretary.....Geo. E. Rosenthal, Quincy
Treasurer.....R. J. Christie, Quincy
Censors—Jos. Robbins, L. B. Ashton, E. B. Montgomery, Quincy.

Delegate to the State Society, L. H. A. Nickerson, Quincy.

Alternate to the State Society, R. J. Christie, Jr., Quincy.

The regular meeting of the Adams County Medical Society was held in Quincy, August 14th.

Those present were Drs. Ashton, Burch, Christie, Gilliland, Hart, Justice, Nichols, H. J., Nickerson, Rice, Rosenthal, Williams, W. W., and Fletcher.

Dr. Gilliland presented a case of a male, age 56, who showed a fungating lesion on the dorsal aspect of the left hand and an ulcerative lesion of the tip of the nose, the former of some five years duration and the latter of two years. The nasal lesion was a rather deep ulcer with clean cut edges, discharging a thin white watery material and presenting some slight evidences of scarring at the margin. On discussion it was brought out that the diagnosis lay between lupus and rodent ulcer and that the microscope would be necessary to establish a diagnosis. X-ray or Finsen light treatment was recommended after the pathologists opinion was rendered.

Dr. Hart presented the following paper on
Pelvic Abscess.

During my service as gynecologist, at St. Mary's Hospital, this city, covering a period of several years, the prevalence of the above mentioned disease, with its far reaching effect on the reproductive functions of our women, has appealed to me, as a disease to which too little attention is given by the general practitioner, and while I do not promise anything especially new or startling on the subject, if you will bear with me I will present today, a short paper bearing on this topic. To cover all the ground implied by our heading in one paper, would be taxing your patience too severely; therefore, I will confine myself to that form of pelvic abscess, which we find encapsulated in the fallopian tubes, namely pyosalpinx, touching incidentally perhaps, on the other forms of pelvic infection.

Causes.—Gonorrhea, of which 'tis truly said, "No other disease has caused so much indirect mortality, mutilation and suffering," is undoubtedly the principle causative factor in pyosalpinx, as well as all other pelvic inflammations.

To the question*, "What is the proportion of cases of pelvic inflammation, coming under your care, which are attributable to gonorrheal infection?" sent to many leading gynecologists of this country and Europe, Humiston replied, that ninety per cent of his cases were attributable to this cause. Price answered, that in over one thousand abdominal sections for pelvic inflammation ninety-five per cent were attributable to gonorrhea, and that in ninety-five per cent of these cases, the history was reliable and clear. Pozzi and Frederick stated their experience at seventy-five per cent. The statement often made that, "Half the abdominal operations performed in the world today, are required on account of the infections, adhesions, and pus collections, due to gonorrhea," is said by Humiston and Price to be an under-statement, they placing it at ninety to ninety-five per cent. Mann says that just about all of his pus-tube operations are required on account of gonorrheal infections. No one, not connected with a public institution treating this class of cases, can have a correct conception of the prevalence of this disease; and, it is by no means all found in prostitutes, or women of loose morals, but very frequently in wives of unquestioned virtue, who have been innocently inoculated by husbands, who are unaware of the fact, that, they are the immunized habitation of myriads of germs, which only await their transplantation to a virgin soil, to bud and blossom like the proverbial rose. I can recall a number of Quincy's fairest daughters, who were so unfortunate, as to have been the recipient of a dose of clap for a wedding present, which, resulting in pus-tubes, condemns them to a probable childless existence, and the social aim of matrimony thus irretrievably defeated.

In a small minority of cases, streptococcus infection is the causative factor, the germs gaining an ingress during an improperly conducted puerperium, after an abortion, or introduced into the uterus by unclean instruments.

Although I have always tried to exercise due care in properly sterilizing my instruments, in all intra-uterine manipulations, a case occurred a few years ago, which, I will relate, wherein, I am not sure, I was not responsible for the condition, which necessitated a serious surgical operation, and of course caused much suffering, to say nothing of the danger and expenses entailed; I had treated the patient at different times, for a slight endometritis, for a period of some two years, had not seen her for probably a year, when I was called to see her. I found her confined to her bed, having been under a physician's care for some weeks. She was carrying a mild degree of fever, suffering considerable pain in the lower abdomen, radiating down into the thighs, and complaining of a sero-sanguinous vaginal discharge.

*Journal A. M. A. March 11, 1905 Joseph Tebea Johnson

Digital examination revealed large double pus-tubes, which were subsequently successfully removed, the woman making a somewhat tedious, but complete and permanent recovery. Her husband emphatically denied ever having had any venereal disease; she had had no miscarriage and her virtue was above suspicion, and while I am wont to believe, the trouble developed from the slight endometritis, for which I, as well as other physicians, had previously treated her. I have never been able to eliminate entirely the possibility of my responsibility.

Streptococci ranks second as a causative factor, and usually gains entrance by the same route as gonococci; but are said to sometimes penetrate the uterine walls, setting up a metritis, and then a parametritis, by continuity of tissue, or follow the lymphatics, usually terminating in cellular abscess.

Staphylococcus, Colon Bacillus and Tubercular Bacilli, may be mentioned, also, as occasional factors.

Course.—The micro-organism gonococci being deposited in the vagina, finds its way along the mucous membrane, first involving the uterine mucosa, and then, that of the fallopian tube where, if the infection be of a mild type, nature, through its hordes of leucocytes summons to repel the attack, may be to arrest its progress, and destroy its virility, the tube in some cases becoming pervious, and capable of again performing its function. (These cases with their damaged ciliary membrane interfering with the proper descent of the ovum, are said to be sometimes responsible for tubal pregnancy.)

When the infection is more virulent, nature failing in her effort to destroy the germs, proceeds to circumscribe, or wall off the offending material, by throwing out inflammatory lymph, causing co-aptation of the walls of the tube, both at the fibrilated and uterine ends; the tubes becoming edematous and heavy fall back toward the pelvic floor, where from contiguity of tissue, they become adherent to the adjacent organs.

Thus fixed in their new position, the germs in some cases seem to lose their virility before the pus sack attains any considerable size, the contents become inspissated, and the damage wrought, and disability caused, is comparatively small, being limited to the malposition of the organs, and, the adhesions holding them in their unnatural position. The more usual course, however, is a continued enlargement, by reason of the pyogenic lining membrane, until a tumor of considerable size is formed, which, if spontaneous evacuation does not take place, may attain enormous proportions. I recall seeing a case some years ago, from which nearly two gallons was removed from the two tubes enucleated.

Symptoms.—The surgeon seldom sees these cases in the acute stage of the disease, when seen however, they are, if of gonorrheal origin, preceded by more or less acute inflammation of the urethra, vulva and vagina, followed by pains in the pelvis, accompanied by painful micturition and a varying degree of temperature.

In streptococcus infection the symptoms are

more acute and grave, usually ushered in with a chill. The fever soon becoming alarmingly high, with corresponding pulse; after a period of from six to fifteen days, if from gonorrheal, and from three to twelve weeks, if from streptococcus, the acute symptoms subside, but the patient is far from well, she has pelvic pains, painful and frequent menstruation, more or less sero-sanguineous vaginal discharge, painful micturition and defecation, from adhesions and pressure, bearing down pains and backache, and usually, though not always, an evening temperature.

Diagnosis.—The diagnosis is not usually difficult. The history of an attack of gonorrhea, septic labor, or miscarriage, can usually but not always be elicited; when such information is forthcoming it is of diagnostic importance, frequently the history of an initial attack is wanting, the patient says she began to have painful menstruation, tenderness of lower abdomen, lack of animation, etc. The general appearance of the patient as sallow complexion, stooping and careful gait, etc., will indicate suffering more or less constant and acute. Digital examination reveals an immovable pelvic floor, indurated masses can sometimes be detected on one, or both sides of the vaginal vault, or perhaps in Douglas' cul-de-sac, tender and perhaps slightly fluctuating, if of large size, a tumor may be felt above the pelvic brim.

Treatment.—Preventative treatment is of paramount importance; the best means of protecting the innocent from the latent gonococcus, is commanding the attention of our societies today, which, presages a better understanding of the subject by the profession.

The general practitioner, who usually sees these cases, must be impressed with the seriousness of this disease, which he too often treats with levity. The laity must also be educated; must be instructed as to the fearful danger lurking in the slight and apparently harmless gleet discharge, and the direful results following woman's inoculation. This knowledge can probably, best be disseminated through the agency of our state board of health, to whom is entrusted the general supervision of the interests of the health and life of the people.

After infection has gained ingress into the fallopian tube of woman, if seen in the initiatory stage, the treatment should be palliative; for surgical interference at this time is very dangerous, you have no well defined abscess cavity to attack, the adjacent peritoneal coverings have not, as yet, become immunized, and, any disturbing of the lightly agglutinated surfaces, would cause a rapid spreading of the infection, and probably, an early fatal termination; instead give frequent and copious vaginal douches of hot water, use ice applications to abdomen, and opium when necessity seems to require.

After the subsidence of the acute symptoms, is the time of election for surgical interference; an operation slight in character, but with much promise of a permanent cure, without mutilation, is now indicated, namely vaginal incision and drainage, which, if performed early, will I

believe, cure a large majority of these cases; if deferred however, until the lining wall of the abscess cavity becomes pyogenic the probability of a cure by this method, are small indeed, for anything short of a total destruction of all the pyogenic lining membrane, by curette, caustics or otherwise, will result in a permanent fistulous tract, or recurrence of the abscess.

Vaginal drainage is usually performed in the following manner; after thoroughly cleansing the parts, the vaginal wall is pressed up against the point selected for puncture, with the index finger, which, also serves as a guide for a pair of scissors, or sharp pointed clamps, which are plunged into the abscess cavity, upon their withdrawal, the scissors or clamps should be opened, thus making an opening large enough to permit of the introduction of a gauze pack, after the cavity has been thoroughly explored, curetted and irrigated. Very little hemorrhage will be encountered, in this procedure, if care is taken to avoid the uterine artery. Other dangers of this operation, is the possible wounding of the ureters, bladder or rectum, and the more common accident, of transfixing a loop of the illium. That these dangers may be lessened I have conceived, and carried into execution with gratifying results, in a number of cases, the idea of an extra-peritoneal drainage, which I will describe.

An incision posterior to, and slightly to one side of the cervix, is made, cutting down to the peritoneum, which is then followed by dissection, with the finger upward, close to the uterus separating the anterior and posterior folds of the broad ligament, until the tube is reached, after which it is punctured and treated, as in ordinary vaginal drainage. If the case be a double pyosalpinx, the incision should extend in a semi-circle, across the entire vaginal vault; the dissection, after reaching the uterine body, being carried to either side of that organ, until the fluctuating mass is encountered. This method, in addition to lessening the danger of the accidents mentioned, entirely obviates the possibilities of the purulent abscess contents, flowing or leaking into the pelvic cavity, and setting up a general or localized peritonitis. After vaginal drainage the pack should be left in two or three days, after which, the cavity should be thoroughly irrigated daily with boric acid solution, and re-packed until by granulations and contraction it is entirely obliterated, which, in adaptable cases, will occur in from two to four weeks. Unfortunately cases of pyosalpinx are usually referred to the surgeon at a later period than the one just described; the improvement after the initiatory symptoms have subsided, encourage the patient, as well as her physician, to think that she is going to make a spontaneous recovery, and it is only after months, aye perhaps years, of varying degree of ill health, that the surgeon's services are solicited; then a very different operation is required, that of enucleation. Some very eminent surgeons, among them Pryor, of New York, enucleate through the vagina, with excellent results, but for the less frequent, and less skilled operator, the abdominal

route should be chosen, whereby his tactile sense, may be aided in the difficult dissections and manipulations, by the sense of sight.

The opening having been made, the omental adhesions properly dealt with by ligation, if any interfere with the examination, the patient should be placed in the Trendelenburg position, and the free abdominal cavity walled off by the use of hot moist pads, the fundus located, the finger can usually be worked down to Douglas' cul-de-sac, and from this point the adhesions around the tubes carefully broken up; sometimes however, the better point of ingress will be found, out on the dorsal wall of the pelvis, where, after getting the fingers down behind the tube, by a rolling motion, the entire mass is dissected up retaining its normal attachments to the uterine body.

At this point the question of a pan-hysterectomy must be considered, for many excellent surgeons, among them Mann, of Buffalo, advocate a complete hysterectomy, whenever it is necessary to enucleate a fallopian tube by reason of its infectious contents.

To remove the pyosalpinx and leave an infected uterus, will only partly alleviate the patient's symptoms, if at all, and the results will be unsatisfactory, in the extreme; the patient continue to drag out a miserable existence, for a time, and finally return, or more likely, seek the services of another surgeon, who will be called upon to operate for the condition you have failed to relieve; this question requires serious thought, and close discrimination, if the patient be young, the pyosalpinx single, the other tube and uterus healthy, the purulent mass should be removed, after ligation at the cornu, and an effort made to save the apparently healthy viscus; if an endometritis exists, the uterus should be carefully curetted, and packed with iodoform gauze, a small drain of the same material being drawn through an opening in the cul-de-sac, if any question exists as to the sterility of the field.

On the other hand, if the patient is approaching the menopause, the other tube under suspicion, or the uterine tissue boggy and friable, a complete removal of the organs, including the cervix, should be made, provided, of course, the physical condition of the patient does not contra-indicate this major operation, by reason of the additional shock entailed. After pan-hysterectomy, performed in the usual way, and iodoform gauze plug should be drawn down through the opened vault of the vagina, leaving the upper end a little above the cut edges of the vaginal walls. The after treatment is very simple; after the removal of the gauze plug, which, should be left for from two to four days, the vagina should be washed out daily with warm boric acid solution.

BOONE COUNTY MEDICAL SOCIETY.

Dr. G. N. Kreider, Springfield, Ill.

Dear Doctor:—In compliance with your request I will give you an account of what we have done in this county.

Dr. J. H. Stealy, of Freeport, acting for the Illinois State Medical Society called a meeting

of the physicians of Boone County for July 14th at the Julien House, Belvidere, Ill. Fourteen physicians attended this meeting and after a talk by Dr. Stealy and a full discussion organized the Boone County Medical Society. No factional lines were drawn. The following officers were unanimously elected: President, R. W. McInnes, Secretary, R. B. Andrews, Vice President, D. E. Foote, Treasurer, J. B. Lietzell, Censors 1 year, Chas. Scott, 2 years, A. W. Swift, 3 years Robt. Hutchinson. The president appointed Drs. Mitchell, Marriett and Delavergne a committee on constitution and by-laws.

The meeting then adjourned.

The first regular meeting of the Boone County Medical Society was held Friday, Sept. 1st. in G. A. R. hall. There was a large attendance twenty-five physicians being present and much interest manifested. Dr. J. B. Murphy addressed the meeting, his subject being **Gastric Ulcer**. In his usual clear and concise way Dr. Murphy treated the subject and held the undivided attention of those present.

This first meeting was considered auspicious for the future of the society and by the time of the next meeting the first of December we expect to have nearly if not all the profession in this county, members of this society.

Your very truly,

R. B. Andrews, Secretary.

CRAWFORD COUNTY MEDICAL SOCIETY.

Regular meetings are held bi-monthly on the second Thursday. Membership 24.

Officers.

President.....Dr. Frank Dunham
Vice-President.....Dr. L. R. Illyes
Secretary.....Dr. H. N. Rafferty
Treasurer.....Dr. C. Barlow
Board of Censors: Dr. G. W. Fuller, Dr. C. H. Voorheis.

Committee on Arrangements: Dr. I. L. Firebaugh, Dr. C. Barlow, Dr. H. N. Rafferty.

The Crawford County Medical Society held its regular bi-monthly meeting at the office of Dr. A. G. Meserve, Thursday, Sept. 14, 1905.

The meeting was called to order by Dr. L. R. Illyes, Vice-President, in the absence of President Dunham, with the following members present, viz.: Barlow, Birch, Firebaugh, Illyes, Kirk, Meserve, Midget, Mitchell, Price, T. N. Rafferty, H. N. Rafferty, Smith and Voorheis.

The minutes of the previous meeting were read and approved, after which Drs. A. G. Meserve and J. E. Midgett were nominated to fill existing vacancies on the Board of Censors. On motion, the rules were suspended and the secretary was instructed to cast the unanimous ballot of the society for these gentlemen.

Dr. L. R. Illyes read an able paper on "Acute Intestinal Obstruction," which was freely discussed by all present.

Dr. T. N. Rafferty's paper on "The County Society" was timely, owing to the sluggish condition of our society at present, and was well received.

The discussion was mainly concerning the

subject of consultation with irregulars, and their admission to our ranks.

After a lengthy and profitable discussion of all the phases of these propositions, the Society adjourned, to meet in November, at which time an unusually interesting program is promised.

DECATUR MEDICAL SOCIETY.

Regular meetings are held in the Decatur Club Rooms the fourth Tuesday of each month
Membership 62.

Officers.

President, Everett J. Brown.....Decatur
Vice-President, Ellen F. Grimes.....Decatur
Secretary-Treasurer, Benjamin Bachrach.....

.....Decatur
Board of Censors: S. E. McClelland, Lynn M. Barnes, Cass Chenoweth.

The regular monthly meeting of the society was held in the Decatur Club rooms, Tuesday evening, August 22, 1905, and the president being absent, the vice president, Ellen F. Grimes, presided.

Dr. J. Stebbins King read a very interesting paper on **Some Personal Experiences with Yellow Fever**. It was greatly appreciated by the society, for the doctor had had considerable experience with the disease, while army surgeon, both in this country and in Cuba.

Dr. Will C. Wood reported several interesting cases, which was welcomed by the society.

The two amendments to the by-laws were adopted.

JERSEY COUNTY MEDICAL SOCIETY.

Society met at the Court House, Aug. 2nd, 1905, at 2. p. m.

Dr. Waggoner in the Chair.

Members present: Drs. Waggoner, Barnett, Flautt, Bohanan and Van Horne.

Minutes of the June meeting were read and approved.

Dr. O. O. Giberson of Delhi was elected to membership.

Dr. A. A. Barnett read an interesting paper on summer complaint of children.

The treatment should be upon hygienic principles. Cleanliness and antiseptics being of much value. Small doses of Calomel and Bismuth are advised. To relieve nausea spiced plasters are of much utility.

Many other useful remedies were embodied in Dr. Barnett's paper.

The paper was discussed by Drs. Flautt, Bohanan, Waggoner and Van Horne.

Dr. Van Horne continued his paper on Hydro-Therapy.

Dr. Van Horne offered the following resolution which was adopted:

Resolved, That a legislative committee be appointed to confer with other medical societies with a view of securing the passage of appropriate laws pertaining to the management and control of patent and proprietary medicines.

In support of the resolution he said: "Our legislators have started such laws but have not felt the backing and support of the medical profession, who after having the subject intro-

duced into the legislature would retire to their homes, trusting all would be well, while the enormous monied interests of the proprietary and quack medicines were always on the alert and on hand with boodle and with paid attorneys to defeat legislation that would be inimical to the enormous fortunes that they wrung from the people."

The resolution was adopted. The legislative committee to be appointed at the September meeting.

On motion society adjourned to first Wednesday in September.

September 6, 1905, society met at the Court House.

The President, Dr. Williams, in the Chair.

Members present: Drs. Williams, Barnett, Gledhill, Bohanan and Van Horne.

Dr. Joseph Enos and Dr. Geo. B. Smith were elected to membership.

The legislative committee appointed by President Williams was as follows: A. K. Van Horn, Chairman; H. R. Gledhill, R. Bohanan and Joe Enos.

Typhoid fever was before the society for discussion.

Dr. Gledhill gave an interesting talk on typhoid fever and reported two cases recently treated by him; they were of unusual interest.

A general discussion of typhoid fever was entered into by the members present.

Dr. Joseph Enos, Dr. J. S. Williams and Dr. Barnett each gave interesting facts in the management and treatment of the disease.

The board of censors decided to continue the subject of typhoid fever for the October meeting.

On motion the society adjourned to the first Wednesday in October.

SANGAMON COUNTY MEDICAL SOCIETY.

Regular meetings are held at the Lincoln Memorial Library in Springfield the second

Monday of each month at 8 p. m.

Membership 80.

Officers.

President.....W. O. Langdon, Springfield
Vice President.....R. D. Berry, Springfield
Secretary-Treasurer....C. R. Spicer, Springfield
Directors, B. B. Griffith, E. E. Hagler, A. D. Taylor.

The Sangamon County Medical Society held its regular meeting in the Lincoln Library Sept. 11, 1905. Fourteen members and four visitors were in attendance.

Drs. Bell, James and Graser were elected to membership. The applications of Dr. J. W. Mays, of Illiopolis and Drs. F. C. Fink, P. W. Monroe, Stanley Castle and C. L. Patton were received and referred to the board of censors.

Dr. Griffith was elected to fill the vacancy in the board of censors caused by the absence of Dr. Hopkins. The invitation extended to the State Medical Society at its last meeting to hold its next meeting in Springfield was discussed. All seemed agreed that the convenience, comfort and general interests of the State Society would be best conserved by making Springfield the permanent place of meeting.

Dr. Munson was the essayist of the evening and presented an interesting paper on "Our Milk Supply."

Among the many strong points presented were the following: The cost of furnishing good milk is necessarily greater than where no special care of the herd nor proper handling of the milk are observed. That the consumer erroneously considers the price rather than the quality of milk and patronizes the producer of cheap rather than good milk. Special attention was called to the care of the containers for the milk and the fact noted that cold storage pasteurization nor any other process would make milk wholesome which had been contaminated by any means during transit to the consumer.

The sanitary regulations of other cities were referred to—especially Rochester and New York City. Also the fact that the laws of New York had been so amended that at present it is necessary to have a license to sell milk and to procure the same the dealer must conform to strict regulations. Mention was made of the incident which led to the recent investigation of our local milk supply and the flagrant abuses and pernicious practices in vogue in the adulteration of milk offered for sale. It was the author's opinion that much of the faulty management of the milk complained of was a matter of ignorance on the part of the dairyman and dealer rather than a malicious intent and that the effects of the preservatives used were not appreciated.

The paper was well received and called forth a general discussion. Dr. Arthur Prince noted the passing of an effort on the part of a dairyman who endeavored to conduct a sanitary dairy. The project failed partly because the public failed to appreciate the efforts of the dairyman and the necessary added cost of milk; but more especially because in separating the fat from the milk by a powerful centrifugal separator the mucin was removed from the milk and though the fat was again added to the milk it produced constipation. Dr. Dixon raised the question as to whether formaldehyde, in such amounts as would be necessary to preserve the milk, was really injurious and if so, how?

Several replied to the question to the effect that when used continuously the formaldehyde acted as an irritant to the delicate mucus membranes of the stomach—especially in children.

The following resolution offered by Dr. Kreider was adopted:

Resolved, By The Sangamon County Medical Society:

1st. That events of the past few weeks have shown that municipal control of the milk supply of the city of Springfield is absolutely necessary to preserve the life and health of all citizens, more especially children and invalids.

2d. That a committee be appointed to visit those dairies claiming to furnish clean milk and report at the next meeting of our Society.

3d. That the municipal control should be along modern scientific lines and that we urge the authorities to take immediate action in this important matter. The committee appointed by

the chair as provided for by the resolution were Drs. Kreider, L. C. Taylor and S. E. Munson.
The meeting closed in order.

VERMILION COUNTY MEDICAL SOCIETY.

Regular meetings are held at the Council Chamber, Danville, Illinois, the second Monday in each month at 8 P. M.

Officers.

President.....F. N. Cloyd
Vice President.....S. L. Landauer
Secretary-Treasurer.....C. E. Wilkinson
Board of Censors—H. F. Becker, Joseph Fairhall and Benj. Gleeson.
Public Health and Legislation—Joseph Fairhall, E. E. Clark, T. E. Walton.
Program—F. N. Cloyd, E. B. Coolley, C. P. Hoffman.

PROGRAM 1905-6.

October 9, 1905.

Summer Diarrhoea in Children, E. B. Coolley.
Discussion led by R. A. Cloyd and R. A. Brown.
Treatment of Typhoid Fever, Clark Leavitt.
Discussion led by B. Taylor and S. M. Black.
Report of Cases.

November 13, 1905.

Symposium Tuberculosis.
Diagnosis, F. M. Mason.
Discussion led by Leroy Jones.
Treatment (non-surgical) J. B. Morton.
Discussion led by F. N. Cloyd.
Surgical Treatment, S. C. Glidden.
Discussion led by C. E. Wilkinson.
Report of Cases.

December 11, 1905.

Social Session.
Committees to be appointed by the chair.
Election of Officers.

January 8, 1906.

Rheumatism, A. J. Leitzbach.
Discussion led by G. M. French and S. L. Landauer.
Legal Medicine, Joseph Fairhall.
Discussion led by E. E. Clark and J. A. Chaffee.
Report of Cases.

February 12, 1906.

Hepatic Insufficiency, Theo. Regan.
Discussion led by J. B. Hundley and J. W. O'Haver.
Auto-intoxication, J. H. M. Clinch.
Discussion led by A. Merrill Miller and J. G. Fisher.
Report of Cases.

March 12, 1906.

Emergency Therapeutics, F. E. Saunders.
Discussion led by O. W. Michael and Solomon Jones.
Emergency Surgery, P. H. Fithian.
Discussion led by W. A. Lottmann and T. E. Walton.
Report of Cases.

April 9, 1906.

Ophthalmia Neonatorum, C. P. Hoffman.
Discussion led by Benj. Gleeson and E. E. Clark.
Asthenopia, B. I. Poland.
Discussion led by I. E. Huston and E. M. Smith.
Report of Cases.

May 14, 1906.

Perinephritic Abscess, H. W. Morehouse.
Discussion led by W. A. Cochran and J. M. Guy.
Alkaloidal Therapy, W. H. Paul.
Discussion led by Effie Current and Samuel Moore.
Report of Cases.

June 11, 1906.

Lesions of the Stomach, Robt. McCaughey.
Discussion led by M. Sahud and H. F. Becker.
Orthopedic Surgery, G. L. Williamson.
Discussion led by T. P. French and D. V. Ray.
Report of Cases.

Membership of the V. C. M. S. for 1905, that Have Paid Dues.

Babcock, H. S., Danville.
Barton, F. W., Danville.
Becker, H. F., Danville.
Black, S. M., Georgetown.
Brown, R. A., Humrick.
Chaffee, J. A., Danville.
Clark, E. E., Danville.
Clinch, J. H. M., Danville.
Cloyd, F. N., Westville.
Cloud, R. A., Catlin.
Colyers, J. R., Catlin.
Cooley, E. B., Danville.
Cossairt, W. S., Potomac.
Current, Effie, Danville.
Fairhall, Joseph, Danville.
Fithian, P. H., Fithian.
French, G. M., Danville.
French, T. P., Danville.
Gleeson, Benj., Danville.
Glidden, S. C., Danville.
Hughes, G. W., Armstrong.
Hundley, J. B., Danville.
Huston, I. E., Danville.
Hoffman, C. P., Danville.
Johnson, A. C., Sidell.
Jones, Solomon, Danville.
Jones, Leroy, Hoopeston.
Kingsley, V. C. T., Danville.
Landauer, S. L., Danville.
Leavitt, Clark, Danville.
Leitzbach, A. J., Fairmount.
Lottmann, W. A., Danville.
Mason, F. M., Rossville.
Michael, O. W., Muncie.
Miller, A. M., Danville.
Moore, Samuel, Danville.
Morton, J. B., Ridgefarm.
O'Haver, J. W., Danville.
Paul, W. H., Danville.
Poland, B. I., Danville.
Ray, D. V., Jamesburg.
Sahud, M., Danville.
Smith, E. M., Georgetown.
Taylor, B., Westville.
Walton, T. E., Danville.
Wilkins, J. M., Fairmount.
Wilkinson, C. E., Danville.
Williamson, G. L., Danville.
Worthington, R. R., Indianola.

The above names have been reported to Secretary Weis, and have paid dues for the year 1905.

Charles E. Wilkinson,
Secretary.

THE USE OF CYSTOGEN

IN

Cystitis Pyelitis

has become the recognized treatment of a large proportion of the American Genito-Urinary Specialists. It impregnates the urine with formaldehyde; washes the Genito-Urinary tract from the glomerulus of the kidney to the meatus urinaris with this germicidal solution. Its influence will be seen in the rapidity with which it neutralizes ammonia, destroys putridity, and clears the urine of the tenacious mucus so prevalent in bladder troubles of the aged.

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Cystogen—5-grain Tablets.

Cystogen-Lithia (Effervescent Tablets).
Cystogen Aperient (Granular Effervescent Salt)
with Sodium Phosphate.)

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Is often a perplexing question when mother's milk is insufficient, either in quantity or quality. Pure cow's milk is not always available, and most of the proprietary substitute foods are deficient in fat. Even cow's milk, although containing the requisite fat, is somewhat deficient in carbohydrates. But Winters says: "Children get over slight chemical differences in cow's milk much more readily than they do physical differences—those due to contamination." And Jacobi states: "Clean milk is far more important than any amount of modification."

Highland Brand Evaporated Cream



Which is simply good cow's milk reduced two and one-half times by evaporation and sterilized, overcomes all danger of contamination. Further than that it is more readily digestible than either raw, pasteurized or boiled milk. In short, it is far preferable to ordinary cow's milk from every standpoint. It is the simplest, most uniform and satisfactory substitute food. Trial quantity on request.

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The Illinois Medical Journal.

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PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

The Morning Dose of Saline.

Physicians should emphasize the importance, to the majority of people past middle life, and especially to those who suffer from fermentive indigestion, particularly of the lower bowels, as so many do, of the morning toilet, or rather flushing of the bowel, with a well-diluted, non-irritating saline. Its action is first to unload the congested capillaries of the mucosa, and then to sweep out the accumulated debris, leaving the bowel fresh for the duties of the day.

To accomplish this a saline should be taken the first thing in the morning, a heaping teaspoonful, more or less as needed, of a good preparation, dissolved in a half-glass of cool water. Taken in this way one-half hour before breakfast it should act within two hours after breakfast, getting entirely out of the stomach before it receives food, thus flushing the entire canal for the digestive work of the day.

The best of all salines for this purpose is Abbott's Saline Laxative (granular effervescent magnesium sulphate, c. p.). Just enough should be taken to produce the desired effect—one good free, satisfying, gratifying evacuation of a semi-solid consistency. Taking enough, and just enough, and taking it regularly under the conditions as outlined, no habit is established and the dose will not have to be increased. If irritating preparations are used, or if it is taken in any other way than suggested, this will not be the case. It is astonishing how much can be accomplished in the maintenance of health by the regular use of this preparation as outlined. Here is a pointer not only for many, many patients, but for the doctor himself as well.

Cystitis.—The treatment of cystitis should be direct and indirect; whether it be due to gonorrhea, obstruction, or any other cause, the management is essentially the same. Here, rest is of first importance; such a condition of quiet is, at times, necessary that on the surface of the urine in the bladder there is not a wave or ripple.

The hips should be raised and the urine kept from the bladder neck; the general health should be cared for, and the use of such de-

mulcent diuretics as will flush out the bladder with minimum discomfort. For the accomplishment of this purpose, the following is of service when the urine is alkaline and much decomposed:

Rx. Cystogen tablets, aa, 5 gr. No. XXV.

Sig.—One in a glass of water after each meal.

Progress in Fracture Treatment. Progress is the order of the day and in no department of surgery is this better exemplified than in the treatment of fractured limbs. The advent of the Ambulatory Pneumatic Splint has enabled the giving of patients such superior treatment that shortening or deformity have been practically eliminated. These splints may be applied without an anesthetic or the causing of pain to patient and it at once allows the patient to move in bed, sit up or walk about, a little more each day until well, as directed. Good bone union is invariably secured and treatment with it, makes patients stronger, enables them to enjoy the benefits of fresh air, sun and light, eat and sleep better and to recover from their injury much sooner than would otherwise be possible. Extension, counter-extension and immobilization are easily applied and maintained whether patient is in bed or walking with this modern splint. Co-aptation splint, adhesive strap traction or any form of dressing indicated may be used with it. Its use assures free circulation, inspection, ventilation, bathing, dressings, massage, etc., besides gradual daily extension until subsidence of inflammatory exudate is complete and satisfactory continuity and bone union has been secured. This splint is adjustable to the right or left limb of any adult patient, for any fracture from the neck to the femur to the ankle and being thoroughly well made and adjustable, may be renovated and used any number of times. We heartily commend its use to our readers. It is made by the Ambulatory Pneumatic Splint Mfg. Co., Chicago, who guarantee it to give satisfaction.

FOR RENT—A beautiful suite of rooms in genteel neighborhood, near Lincoln park, suitable for physician or couple. All modern convenience. Address Mrs. J. J. Gorman, 547 Dearborn Ave., Chicago, Ill.

TONSILLITIS.

Inflammation in any form attacking the tonsillar region gives rise to symptoms of most distressing character and at the same time provides a most favorable soil for the entry into the system of other infections. It is well to remember that at first this disease is only a local disturbance affecting the capillary system and glandular structure, and if promptly and efficiently treated will remain local. The constitutional symptoms such as fever, headache, etc., only develop when there is considerable infection taken up.

In treatment, the first indication is to increase local capillary circulation. A local remedy must fill two requirements, i. e., a detergent antiseptic and a degree of permanency in effect. Many of the remedies which have been advocated for the varied forms of Tonsillitis are antiseptic, but they are not sufficiently exosmotic in their action to increase the circulation or else their effect is too transient. Glyco-Thymoline frequently applied in a 50% strength with a hand atomizer produces a rapid depletion of the congested area through its well defined exosmotic property, reestablishing normal passage of fluids through the tissues, promptly relieving the dry condition of the membrane and giving an immediate and lasting anodyne effect. As a gargle, a 25% solution hot, may be effectively used, providing the process does not cause undue pain. The external application of cloths dipped in hot water and Glyco-Thymoline in 25% solution greatly increases the venous circulation.

In a treatise "On Exodin as a Purgative for Puerperal Women," Dr. Otto Schmechel records an extensive experience with exodin in the clinic of Privy Councillor von Winckel at Munich. It was given to 100 subjects, mostly young and healthy puerpera whose confinements had been normal, but who had no passage for three days after delivery. They all took it without any trouble whatever; there was no difficulty in swallowing the tasteless suspension. Never was there disgust or nausea.

The results were in accord with those of Prof. Ebstein and Dr. Stauder; passages were procured without any trouble whatever. The dose of 22½ grains, however, which they found to be always sufficient, gave some failures, and to assure certainty of effect in these puerperal cases it was necessary to give a dose of 30 grains. Once the drug caused some tenesmus and a thin evacuation, but no other case of diarrhoea was observed. The stools were sometimes formed, but usually mushy and brownish. They never contained mucus or any other indication of intestinal irritation.

Often there was another stool on the same or following day. The interval between administration and defecation were somewhat lengthy. The earliest passage noted was 10 hours later, and this was only occasionally. Usually it took 18 to 20 and even 24 hours.

As certain drugs, like rhubarb, are excreted in the milk of nursing women, the infants were carefully observed. It was never noted that a nursing got diarrhoea or was in any way influenced when exodin was given to the mother. The urine of the patients was dark as a rule, but there was never albumin or any other pathological substance present. There was no staining of linen, as occurs with purgatin.

Exodin thus proved to be a readily administered laxative which does not affect the stomach, is entirely non-irritant, and has no deleterious influence on the progress of the puerperium. The requisite dose appears to be 30 grains, if certainty of effect is to be guaranteed.

A NEW LIQUID ANTISEPTIC.

Parke, Davis & Co., have recently introduced a new liquid antiseptic of considerable power, called Cresylone. It contains 50 per cent of Cresylic Acid and forms clear solutions with water in all proportions.

A two per cent solution of Cresylone is not only an excellent disinfectant for instruments and hands, but a valuable detergent and lubricant, too. It is said not to injure metallic or rubber instruments, though celluloid articles are apt to become friable under its action.

In the treatment of wounds a one per cent solution is usually employed, and a two per cent solution may be used in profoundly septic cases when more vigorous measures are indicated.

Cresylone completely arrests the development of pus organisms and is, therefore, indicated in the various suppurations with which the general practitioner has to contend. In the treatment of otorrhea, irrigation with a ½ per cent solution is said to be of benefit. A solution of the same strength is of value in the treatment of ozena.

As it removes odor, it may prove of service in gangrene. In cancer of the cervix uteri the application of gauze saturated with a solution of Cresylone will remove the odor that accompanies this disease. For disinfecting sputa and stools Cresylone commends itself in the sick room, hospital ward, schools, prisons, etc.

Therapeutically, the use of Cresylone has been suggested in various pathologic conditions, notably in the treatment of gonorrhea, lupus, tonsillitis, eczema, and cystitis of the female.



The Illinois Medical Journal.

The Official Organ of The Illinois State Medical Society.

Vol. VIII. No. 5.
25c per copy

Springfield, Ill., November, 1905.

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OEDEMA OF THE LUNGS FOLLOW- ING THORACENTESIS, WITH REPORT OF A CASE.*

BY S. M. MILLER, M. D., PEORIA, ILL.

CASE HISTORY.—This patient was a laboring man, aged 33, married, and had two children. There was no previous history bearing on the present illness. Venereal history negative. Family history negative. He was admitted to my care in Cook County Hospital in January, 1900, with a history of having had a severe pain in the right side of the chest two weeks previously, which persisted for a week and then disappeared. The pain was sharp and cutting in character, and was increased by deep inspirations. After this the patient complained of shortness of breath on exertion, malaise and loss of strength. There was no material loss of flesh.

The examination revealed a man of fair muscular development and of fair nutrition. A moderate degree of anemia was apparent, shown by the pallor of the mucous membrane and of the skin. Examination of the chest: The right side of the chest was more prominent than the left, and immobile during breathing; on percussion there is dullness over the right side of the chest, extending upwards anteriorly to a point two fingers breadth below the clavicle and posteriorly as high as the spine of the scapula. There was little change in the area of dullness with change of posture. On auscultation the breath sounds over the dull area were indistinct and distant, and inaudible over the lower part of the lung. The voice sounds were not transmitted. The left lung was normal. No impairment of resonance or breathing sounds was found. The rest of the examination was negative, the heart

and the abdomen showing nothing abnormal. The patient was kept under observation for four days, during which time his condition did not change materially. The temperature ranged from normal to 100.5 degrees, and sometimes a trifle higher. A diagnosis of acute pleurisy with effusion was made. After four days the right pleural cavity was aspirated in the posterior axillary line in the seventh interspace, and 1400 c. c. of clear yellowish fluid was withdrawn. The aspiration was performed with the patient recumbent, and consumed about twenty-five minutes. The examination of the chest directly afterward showed the normal resonance and breath sounds over the affected right side of the chest, and the patient experienced relief from the dyspnoea, and the sensation of compression for an hour, when he began to suffer from a constant cough, productive of a clear, frothy fluid, which was expectorated profusely, in all five or six cupfuls. The dyspnoea returned and became very distressing. The breathing was labored and was accompanied by extreme cyanosis and great discomfort, and sense of suffocation. The pulse soon became weak and running, and the patient collapseed and died within an hour in great agony, still cyanotic, and expectorating clear, frothy fluid. At this time numerous coarse bubbling rales were heard over both sides of the chest. Death was attributed to asphyxia, the patient literally being drowned in the fluid which filled the lungs.

This disastrous sequel of a simple and uncomplicated thoracentesis is fortunately a rare event. Sudden death during the course of a pleurisy, and sometimes without premonition during the tapping, is an occasional occurrence. Some of these deaths are due to embolism. Clots formed in the pulmonary veins, and dislodged during the tapping, or independent of it, may lodge in the heart, causing sudden death, or embolism of clots

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

formed in the pulmonary arteries, with the occlusion of large branches of these vessels may occur either with fatal results or with the formation of infarcts. Osler reports a post-mortem in such a case, in which he found a clot extending from the right ventricle into the pulmonary artery, in the case of a man who died suddenly during the course of a pleurisy with effusion. Another curious instance is reported (Frantzel) where death ensued eight hours after tapping, from the rupture of a small aneurism in a lung cavity of a phthisical patient, the suddenly increased arterial tension being sufficient to rupture the vessel.

In 1852, Bowdich, of Boston, introduced the use of capillary trochars, and the withdrawal of the pleural fluid by means of an exhausting syringe, the device commonly used today, and in the following year, the first case of oedema of the lungs after tapping was reported, that of Pinault, in 1853, and in the next twenty years twenty cases were added to the literature. They were collected by Terillon in 1873. Among them were two fatalities, a mortality of 10%. Since that time the literature is meagre, and beyond the considerable attention devoted to the subject by the French, and especially in our own literature, scant mention is made. There are but five cases reported in the German literature.

The name, albuminous expectoration, was given to this complication by the French, from the characteristic symptom, the expectoration of a large quantity of frothy fluid, rich in albumen. Various explanations as to the origin of this fluid are suggested; first, that the lung is punctured by the trocar, and that the fluid expectorated is a plural exudate which has leaked into a bronchiole; or the same outlet for the fluid may have been possible from the spontaneous rupture of the expanding lung. The similarity of the fluid expectorated to the pleural exudate in some cases suggests this explanation. However, the physical and chemical characters of the albuminous expectoration has varied greatly in the different cases, the specific gravity vary-

ing between wide limits, sometimes being low, sometimes being so high as to suggest that the fluid is an exudate. The amount of the albumen likewise varies greatly. Again, the onset of the complication occurs from a half to six hours after the tapping. Potaine regards albuminous expectoration as due to the entrance of air into a lung, which for a considerable time has not been accustomed to its presence, and which so acts as an irritant, and, according to him, it is not dependent upon expansion of the lung.

The best explanation of the cause of the oedema of the lung following thoracentesis is the following: The blood pressure in the arterioles and capillaries of the collapsed lung is low, so low, and the circulation so retarded in some cases as to allow the clotting of blood in the pulmonary vessels, and the formation of emboli, with serious results, as instanced above. The greatest volume of blood passes through those parts of the lungs not compressed by fluid. The sudden filling of relaxed capillaries and arteries, which follows the rapid expansion of the lung, caused the rupture of a small aneurism of a pulmonary vessel in the lung cavity of a phthisical patient, as reported by Osler, and it is responsible for hyperemia, with a resulting transudation of serous fluid through the vessel wall, and its outpouring into the alveoli of the lung, and oedema of the lung results, similar to the oedema occurring in any tissue after it has been temporarily deprived of its blood supply. Note the oedema and swelling that follow the constriction of a limb, or the extensive oozing and the characteristic wet stump that results after an amputation in which a tourniquet has been used.

The accident has usually been noted after the withdrawal of large quantities of fluid and after its rapid withdrawal. In my own case, however, it occurred after the withdrawal of not more than three pints, and in two cases of Frantzel but little more than three pints had been withdrawn. Prevost tapped a patient repeatedly. At the first tapping 1,000 c. c. was withdrawn; no oedema followed; at the second tapping 3,000 c. c. was withdrawn, and oedema of the lung resulted. In

most cases the oedema follows the removal of from 2,000 to 5,000 c. c. of fluid. The autopsy findings show nothing more than oedema of the lung of the affected side, sometimes of both sides. In my own case, the physical findings were marked on both sides of the chest. Whether this was due to simultaneous oedema of both lungs, or whether the fluid from the affected lung found its way into the opposite lung through the other bronchus, thus literally drowning the patient, it is impossible to state.

The onset is characterized by a slight cough, shortly before the completion of the tapping, or more usually within one-half hour to six hours afterwards, during which period the patient has experienced marked relief. Then the cough and dyspnea become persistent and intense. Cyanosis follows the difficulty in breathing. The breathing becomes labored, the patient expectorates large quantities of a frothy, serous fluid. The fluid streams from the nose and mouth in severe cases with the most agonizing dyspnea. A collapsed pulse, weak and thready, follows. In fatal cases, death from asphyxia results. The amount expectorated may be very great. In my own case over 500 c. c. was measured. Schutz's case expectorated 1,500 c. c. In the meanwhile, over the affected lung, or both lungs, characteristic rales at first crepitant and subcrepitant, later coarse and fine, moist bubbling rales are heard.

The treatment adopted on the onset of a pulmonary oedema should be, first, to elevate the foot of the bed a considerable distance, in order to assist by gravity the escape of the fluid from the lung, lest the patient drown in the fluid, as in our own case. Cold to the chest should be of value; stimulants would avail nothing. In the event of the occurrence of a similar complication, I should resort to a bleeding sufficient to materially reduce blood pressure; artificial respiration is the extreme measure.

From the experience of the reported cases we may reach the following conclusions:

1. Albuminous expectoration usually fol-

lows the removal of large quantities of fluid from the pleural cavity.

2. It is apt to be caused by the rapid removal of the fluid.

3. It is usually inaugurated by dry cough, and this should therefore be kept in mind as a danger signal.

4. It is to be explained as due to an oedema from the intense congestion of the lung following its rapid expansion.

Therefore, to prevent the recurrence of this sequel, I have adhered closely to the following rules:

1. The tapping should proceed slowly and aspiration with the air pump is not to be practiced.

2. No more than 1,000 c. c. is to be removed at one sitting. The aspiration may be repeated, if necessary, after a lapse of twenty-four hours. Usually a single tapping is sufficient, the residual fluid will be absorbed once a portion has been removed.

3. Stop the aspiration at the onset of a slight, persistent cough.

Discussion.

Dr. E. J. Brown, Decatur: I would like to ask Dr. Miller whether he only uses a trocar in aspirating.

Dr. Miller, closing the discussion: Since the occurrences of these cases which have made a most profound impression on me, I have proceeded with aspiration with extreme caution. I use the negative pressure in the bottle, just sufficient to keep the air from being aspirated into the pleural cavity, but not sufficient to produce great suction.

SOME CONSIDERATIONS ON PHEGMON OF THE ORBIT.*

BY CHARLES H. BEARD, M. D., CHICAGO.

Phlegmon, or cellulitis of the orbit, consists primarily in an inflammation of the orbital fat and connective tissue. The comparative frequency of the disease, and the multiplicity of causes that lead to it, should give it a certain conspicuity in the daily work of all classes of physicians, while the gravity of the affection as regards the dangers to the eye, and even to life itself, make its earliest possible recog-

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

nition the first principle of success in its treatment. For these reasons it would seem it is particularly incumbent upon the general practitioner, and mainly so upon him whose labors are in the country and in the small towns, to be ever on the lookout for signs of phlegmon of the orbit. Many of his patients have neither the opportunity nor the habitude of consulting a specialist in any branch of medicine, or the dentist, hence, are more prone to neglect of the many ills which give rise to the malady in question. The victims of phlegmon of the orbit embrace all ages and all conditions of life. It may develop slowly or rapidly. The first signs noticed are slight pains in the side of the head on the affected side, and swelling of the lids. In the mildest forms these may be the only symptoms. In proportion, as the case is more severe, there will be greater pain in and around the eye and in the adjacent side of the face and head, often of the kind termed neuralgic; and either described as a steady ache, or coming in paroxysms, and called "shooting." Not infrequently double vision is an early sign. The pain increases, the swelling of the lid becomes more and more pronounced—the upper one growing hard to the touch and of a livid tint. The conjunctiva puffs up around the cornea. The eyeball becomes more prominent than its fellow, an exophthalmos that can not be reduced by pressure of the fingers upon the lids, and the pressure causes pain. The globe frequently bulges forward to such an extent that the lids can no longer cover and protect the cornea, and the swollen conjunctiva projects, in ugly folds, from the palpebral fissure. The displacement of the eye follows also whatever lateral direction the swelling from behind imparts to it. With the exaggeration of these symptoms the movements of the globe become more and more restricted until absolute fixidity is reached. With this stage comes dilatation of the pupil, from pressure upon the ciliary nerves, and stasis of the retinal circulation from strangulation of the optic nerve—as revealed by examination with the ophthalmoscope. Loss of sight, more or less com-

plete and more or less permanent, is a frequent accompaniment, even when the cornea and other media remain transparent and the ophthalmoscopic examination is negative. The formation of any considerable quantity of pus, as evinced by fluctuation, and by the "pointing" of an abscess, is by no means a constant occurrence, especially in the earlier stages. Sooner or later there is pus somewhere in the orbit, and, if left alone, it would, in most instances, find its way out, usually through the skin of the lids or through the conjunctiva. In the worst instances the cornea and the protruding conjunctiva are destroyed through exposure and necrosis, and even the lids become necrotic and slough away. In addition to these local symptoms the severe cases are attended by the general symptoms characteristic of acute inflammatory processes—chilliness in the beginning, fever, great restlessness, inattention to surroundings, delirium, and, finally, by a state of general adynamia. The disease is rarely bilateral, save when it is the result of facial erysipelas.

The complications and dangers of orbital phlegmon may be thus classified:

1. *Troubles mainly mechanical*, or those due to swelling and compression of the tissues, such as strangulation of the retinal and choroidal circulation, resulting in the death of the nervous and epithelial elements of the retina, followed by ascending atrophy of the optic nerve. Necrosis of the cornea, conjunctiva and lids. Through the exophthalmos comes drying and gangrene of the cornea and conjunctiva. Lastly, trophic disturbances, like neuro-paralytic keratitis, etc. These are local.

2. *Those due to propagation of the infection*, among which are suppuration of the cornea, exudative inflammation of the choroid, and of the retina, panophthalmitis, thrombo-phlebitis of the veins of the globe and of the ophthalmic vein and its connections; septic meningitis, and general septicemia. These are both local and general.

3. *Those due to toxemia*. The most notable of these is the loss of sight, varying

from slight amblyopia to complete amaurosis, and which is apt to be out of all proportion to the apparent gravity of the inflammation. The poisons generated affect locally not only the optic but the other nerves of the orbit.

Mentioned somewhat in the order of their frequency the commoner causes of phlegmon of the orbit are:

1. Septic inflammation of the mucous membrane of the cavities of the face, including the middle ear and the lacrymal canal.

2. Septic diseases of the skin over the contiguous area, or of that drained by the branches of the ophthalmic vein.

3. Wounds, operative and accidental, of the orbit and its vicinity.

4. Quite a number of general diseases, the most prolific being syphilis, tuberculosis and rheumatism.

5. In this class, all by itself, may be put the unique disease, parotiditis, which has achieved some notoriety in the causation of orbital phlegmon.

To the first category belong the various forms of so-called catarrhal and of the suppurative diseases of the cavities mentioned, and the complications to which they lead, such as caries of the neighboring bones and of the teeth. Exposures to severe cold has many times been the forerunner of orbital phlegmon by reason of the resulting acute inflammation of the upper air spaces. As to the sinuses, the origin of the infection is most often in the frontal, then in the three divisions of the ethmoidal, then in the maxillary, and, least often, in the sphenoidal. Empyema of the frontal and ethmoidal cavities can often be discovered by redness and tenderness to pressure over them in time to forestall the orbital complication. Alveolo-dental caries may act directly as a cause, or indirectly through infection of the maxillary sinus. It will be remembered that the roots of the bicuspids, and of the first molar teeth, sometimes penetrate the bony floor of the antrum of Highmore. Notable among the microbes that infest the sinuses, and through

them gain access to the orbit, are those of influenza, diphtheria and pneumonia. So likewise with the infection of the exanthemata, such as scarlatina and typhoid. Among the rare diseases in this class are glanders and its chronic form, farcy.

The most prominent of the affections in the second class are facial erysipelas (*streptococcus*) and furunculosis (*staphylococcus*). Rare in the second class are malignant pustule, or anthrax, and carbuncle.

With regard to the third class, viz., operations and injuries as a source of phlegmon of the orbit, it stands high in point of frequency. The operations that figure most are those upon the lacrymal apparatus, chiefly through wounding the mucous lining of the already septic canal, or through opening the tarso-orbital fascia in these procedures. Concerning the general diseases as cause of orbital cellulitis, syphilis, directly or indirectly, is responsible for more cases, perhaps than are all other causes combined. Aside from its direct tendency to produce osteo-periostitis of the walls of the orbit, syphilis is a prime factor in the etiology of a large percentage of the diseases peculiar to the cavities of the face, and which stand first in causative relation to phlegmon of the orbit. Indeed, a number of general diseases are, first and last, concerned in the pathology of these mucous cavities. Moreover, any infectious disease that is capable of giving rise to metastasis, as, for example, puerperal septicemia, may be the cause of phlegmon of the orbit. Tuberculosis, in its direct action through the general circulation, is very like syphilis in its manner of producing phlegmon of the orbit. Both are prone to attack the bony structures and their covering—in this connection the bones of the orbit—the osteo-periostitis eventually leading to the formation of sequestra.

There are three routes by which the infection, be it microbial or not, is supposed to travel to the orbital fat, to-wit: By blood vessels, by the lymphatics and by continuity of tissue. The one chosen, in any given case, however, it is seldom easy to determine.

Among the things that may be mistaken for phlegmon of the orbit are, thrombosis of the ophthalmic vein, gumma, the gummoid growths of tuberculosis, malignant and other tumors, such as sarcoma, cysts (dermoid, sebaceous and echinococcus), hemorrhage into the orbital tissues, pulsating exophthalmos and exostosis of the walls of the orbit. The affection under discussion is oftenest, perhaps, to be differentiated from that dreadful malady, thrombo-phlebitis of the orbit. Here, too, there is a swelling of the lids, but it is usually softer, and the overlying skin is less inclined to lividity. Chemosis of the conjunctiva is most marked, but is of a curious, frothy appearance, and the exophthalmos is peculiar in that it is direct; i. e., the globe is not displaced laterally or vertically, but straightforward, and its mobility is less restricted. No pus forms. The ophthalmoscope early reveals disturbance of the retinal circulation; that is, palpillary stasis and numerous retinal hemorrhages. The general symptoms are much more accentuated from the start. A chill and high temperature usher in the attack. About the third or fourth day the disease will have traveled around, by way of the cavernous and coronary sinuses, and the same signs are manifested on the opposite side. Death is almost certain.

New growths of the orbit occasionally simulate very closely in their traits, the affection under consideration, and when of rapid development are distinguished with difficulty, sometimes only after a long interval of observation. Large doses of the iodide of potassium will not infrequently clear the diagnosis in these lingering cases. Of course, the livid skin, the great chemosis and pus are mostly absent. The history will often solve the problem. In chronic exophthalmos the absence of adenopathy tends to exclude sarcoma. A large hematoma of the orbit produces diplopia, exophthalmos, and, sometimes, amblyopia, but the other symptoms are wanting, and usually there is a history of concussion, as from coughing or sneezing, a fall or a blow. The subject is likely to be elderly, and with degeneration

of the vascular system. Pulsating exophthalmos is detected by the throbbing, the *bruit* and the history. Exostosis of the orbit is characterized by slowness of growth and freedom from pain and inflammation. There is exophthalmos without diplopia and without limitation of the ocular movements. The growth is so gradual and so slow, and the physiology of the parts is so little disturbed that they adapt themselves to their new relations and their functions are not interfered with. Palpation will often reveal a cluster of stony lobules.

The treatment is, in a sense, and to a degree, prophylactic as well as curative. Given, for instance, a suppurative sinusitis, particularly one in which a nasal pus discharge has suddenly ceased, prompt treatment of the cavity at fault would often serve to prevent orbital phlegmon. The same with regard to defective teeth, especially those whose roots are diseased and situated beneath the maxillary antrum. Immediate extraction, followed by antiseptic treatment of the resulting cavity, are indicated as preventives of orbital cellulitis. All pustules, boils, infected wounds, bites of insects, inflammations, etc., affecting the skin of the face, may be deemed as threatening, more or less remotely, the production of phlegmon, or, worse still, thrombo-phlebitis of the orbit, and are to be dealt with accordingly. Fresh wounds in this region need special care as to cleansing, closure and occlusion. The latter to be accomplished by a well fixed dressing or by collodion. In surgical operations upon the eye-ball and its appendages the tarso-orbital fascia, which is the safeguard of the orbital fat, should be conserved whenever possible, and, when wounded, the injured parts should be thoroughly irrigated with an antiseptic solution, and the opening in the fascia closed, when practicable, by means of absorbable sutures. In probing and syringing the lacrymal canal false passages are to be strenuously avoided, and *never should use of the syringe follow immediately upon that of the probe*, for, in these ways, septic material from the canal is brought into contact with the surrounding cellular tissue.

Suspected foreign bodies of the orbit are to be sought, if need be, with the X-rays, and removed.

The curative treatment is both medical and surgical. The medical both local and systemic. Chief among the local medical measures are the brief application of heat, moist or dry, or the prolonged application of cold, to the lids, and of leeches to the temple, and instillation of a drop or two of 5% to 10% of the solution of dionin. When the proptosis attains the degree that means exposure of the cornea and of the conjunctiva, these parts must be protected by a thin layer of cotton kept wet with boric acid solution. This, in turn, should be covered by a bit of gauze well anointed with sterile vaseline. Hygroscopic dressings are not admissible. Frequent, copious douching with warm boric or normal salt solution is always beneficial.

The systemic treatment consists of remedies *externally* applied, such as inunctions of mercury and of quinine: *hyperdermically*, as solution of pilocarpin carried to the point where it produces free sweating and salivation. It is well, also, to try, on occasion, an appropriate antitoxin, as, for example, the anti-streptococcus serum. *Subconjunctivally*, as solutions of sodichlorid and of the salts of mercury. These measures are specially indicated in the early and middle stages, and throughout in those subtle cases of amblyopia from toxemia and from lymphangitis, unaccompanied by the other more grave phenomena. *Internally* administered, for the first period, greatest reliance is put in small, repeated doses of calomel, free saline catharsis, and the systematic use of full doses of salicylate of sodium. For the advanced cases of the worst type supportive treatment is required.

Rest, in bed, and absolute quiet are among the things to be insisted upon.

Surgical treatment is applicable mainly when the local manifestations are pronounced and are resorted to, first, to obtain relaxation of the swollen tissues in order to prevent, or repair, damage from the me-

chanical effects referred to in class 1; second, for the evacuation of pus. In view of the very serious consequences that may accrue to both sight and life one is not justified in adopting an expectant attitude in the treatment. As soon as the swelling threatens injury, free incisions are to be made in the locality most involved, regardless of the formation of pus, and sufficiently deep to drain the infiltrated parts, even if they penetrate almost to the apex, and the wounds are to be kept open by strips of gauze, *lightly inserted*—not crammed tightly. The incisions are best made with a long, slender, sharp bistoury, either straight or slightly curved, or a full sized Beer's knife. They can be started from the conjunctival sac for relief of chemosis, but for the deeper portions of the orbit they should include the skin. The knife should rather hug the bony walls of the cavity than to encroach too much upon the soft parts, and, it goes without saying, the lacrymal gland, the more important nerves, vessels and muscles must be avoided whenever possible. The most suitable sites for the profoundest incisions are just beneath the middle third of the eyebrow, and any point along the lower rim of the orbit from that perpendicular to the wing of the nose to that on a level with the outer canthus. Bleeding is inconsiderable in proportion, as the tissues are tense, or lardaceous.

When it is evident that the patient is suffering from pyemia, and improvement does not follow attention to more accessible parts of the orbit and sinuses, one need not hesitate to open up the retro-bulbar orbital cavity by resection of its outer wall after the method devised by Krönlein, of Zurich, or after that of some modification of this operation. It is possible, in this manner, to get at an accumulation of pus, or at an infiltration, or other obstruction, around the optic foramen, or at a spontaneous pus opening in the posterior ethmoid cells, or the sphenoidal sinus, that could not otherwise be reached. The operation is formidable to one who has never made it, but it is neither difficult nor dangerous, and should only be considered as *another* means—not necessarily a last re-

sort—of warding off things infinitely worse, as, for example, septic meningitis, intracranial thrombo-phlebitis, or atrophy of the optic nerve.

NERVOUS CASES FOR THE GENERAL PRACTITIONER.*

BY JULIUS GRINKER, M. D.

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The cases I am about to present are interesting not only to the general practitioner but, I believe also, to the neurologist. While they are considered among the most common, some of these present rather rare manifestations of common disorders.

MENOPAUSE NEUROSIS.

Case 1. Under menopause neurosis we understand the symptom complex of both neurasthenia and hysteria frequently found in women at or about the menopause. The patients are usually women from forty-five to fifty years of age who have perhaps shown nervous tendencies all through life, but may have never had a distinct neurosis. At the period mentioned a certain number of women develop symptoms of fatigue, indefinite fears, vaso-motor troubles, the so-called sweats and hot flashes. Simultaneously there may appear insomnia, pressure headaches or so-called nervous headaches or even headaches of the *clavus hystericus* type. The patients are easily frightened, easily excited and consider themselves invalids. The lady before you is forty-six years of age and presents no distinct neurotic history. Her menstrual irregularities began about two years ago, at which time she became nervous and excitable; she suffered from headaches more or less constantly, was extremely fatigued upon slight exertion, was constipated and developed hot flashes and cold perspirations with tremblings. An examination of her secretions and excretions yields negative results. There are no respiratory

or cardiac changes with the exception of slight arterio-sclerosis. The reflexes are somewhat exaggerated, but no abnormalities can be found in her nervous system which would in the slightest degree indicate the existence of organic disease. The diagnosis, therefore, can be made by positive findings that are most subjective and by exclusion of organic disease. How long this condition will last I am unable to state. It may last from five years to five months to five weeks. While under our treatment she has improved considerably. The treatment consisted in attention to the bowels, and the administration of nerve sedatives in the form of sodium bromid, fifteen grains three times daily. Our aim is to ameliorate symptoms for a certain length of time until this critical period shall have passed, when as a rule recovery ensues. While it appears that we are unable to shorten this period of ill health by a single day, yet are we able by judicious management to preserve great relief to these sufferers.

HYSTERIA.

Case 1. It is a well-known fact that there is a tendency among a certain class of practitioners to call everything hysteria which they do not understand. Nothing is more erroneous than this pernicious habit of covering one's ignorance. We do know positively that hysteria is as much a disease as *tabes dorsalis*, that it has as distinct a symptomology as for instance lobar pneumonia and that with but little effort it can be definitely diagnosed. The patient I wish to present is a lady of about 32 years of age, who has been nervous from early youth without having a neurotic ancestry. Several years ago she had an operation for hernia. Since that time her nervousness has increased. This is a typical case demonstrating the two classes of symptoms found in hysteria: the so-called paroxysmal and the inter-paroxysmal symptoms. Her paroxysms appear in typical convulsions of the type so well described by Charcot. Excitement or worry of any kind throws her into a fit of tonic rigidity, stiffening of the upper and lower extremities. The patient never

*95 Meeting of the Northwestern Branch of the Chicago Medical Society.

falls, simply lets herself down gently. After this tonic stage there appears a stage of large movements, during which she throws her hands and feet about in all directions. Any attempt on the part of sympathizers to bring her out of the attack, such as rubbing her hands or holding down her limbs usually results in still more violent and grotesque movements, so that often even four or five robust men are unable to overpower this frail woman. Of late the attacks just described have diminished in intensity and frequency and an abbreviated type of convulsion, the so-called abortive form has succeeded the former violent attack. During these paroxysms she trembles all over, then experiences a fluttering about the region of the heart, followed by a feeling of constriction about the throat, the so-called globus hystericus; then appears a throbbing pain on the vertex of the head and around the temples. A profuse perspiration usually winds up the attack. The patient positively affirms that she has no domestic troubles, but that her adopted child may throw her into a spasm by simply disobeying her or by being unruly in the slightest degree. Inter-paroxysmally she suffers from nervousness, restlessness and is easily frightened. Trifles have a tendency to make strong impressions on her mind. Upon an examination we discover absolutely nothing indicating organic disease of the exaggerated. There is no form of paralysis or paresis, nor in-coordination. An examination for sensory disturbances, however, reveals various hyperalgesic spots: one on the vertex, no larger than a half dollar which is painful on pressure and tender to the touch; another between the shoulder blades and one in the region of the right ovary, the so-called "ovaries" of the French and Germans. A very interesting symptom in this case is the right-sided complete hemianesthesia affecting all qualities of sensation. As you observe I am now sticking a needle into her skin and the patient evinces no sign of pain. I do the same on the lower extremity with a similar result. The patient is blindfolded and therefore cannot see

which part of the body I am examining. While the slightest touch of any portion of the left side of the body is immediately noticed and the point of a pin readily perceived the entire right side is sensitive to pain and temperature, although touch is only reduced on that side. There is no contraction of the field of vision, no inversion of the color fields and none of the other stigmata of hysteria is present. We have then a case of well defined hysteria with the interesting stigma of hemianesthesia, which case approaches somewhat the classical type of Charcot. The four stages of the convulsion described by the great French neurologist are rarely or never seen in this country and in northern Europe, although that form of hysterical paroxysm seems to be prevalent in the Latin countries. Of the convulsive disorders of hysteria we in this country usually encounter the so-called abortive type of the major convulsion. In many instances, however, we find the subjective signs of hysteria without any objective sensory disturbances and without motor disorders.

HYSTERICAL PARAPLEGIA.

Case 3. The patient who walks with crutches and to all appearances is paralyzed, presents one of the unusual forms of paralysis of motion superinduced by psychic or physical trauma. About seven or eight years ago while occupying a position as domestic she quarreled with her employer. During this altercation she received a blow over the right eye which caused a contusion and almost instantaneous blindness in the same eye which disappeared within a few weeks, but vision in that eye was defective for about two years. A few months after the receipt of the injury there was paralysis of the left upper extremity. This, too, suddenly disappeared, but the right arm in its turn became paralyzed and recovery ensued in the same manner. For the past three years both lower extremities have been paretic so that she is unable to walk without the aid of crutches and then very imperfectly. An examination for visceral or organic disease reveals negative findings. The upper extremities as well as the face and eyes are

perfectly normal. The lower extremities show no form of wasting. The reflexes are normal but slightly exaggerated. There are no Babinski, Oppenheim or Gordon signs, no ankle clonus on either side. Sensation is normal in every respect. Patient appears well nourished, presents no anomalies of mentality, nor somatic signs of any kind. The usual stigmata of hysteria are not present in her case. She has been an inmate of the Cook County Hospital and the Dunning Hospital more than once and is now a patient at the South Side Free Dispensary. While at the County Hospital I used suggestion in her case and succeeded in hypnotizing her with the result that for a little while she walked without crutches across the ward, but upon my leaving she immediately relapsed. She has never entirely recovered confidence to walk the street without crutches. This type of hysteria, although rather rare, is found both in men and women and usually appears in the form of so-called monoplegia. It is considered one of the most intractible forms of the disease and constitutes one of the most prolific causes for litigation, as most of these cases are superinduced by trauma. In this category belong many of the street car accidents which from a mere bruise or other insignificant trauma occasionally result in a paralysis of the functional type.

EPILEPSY.

Case 4. The patients I am about to show do not present rare types of the disease. However, epilepsy is always interesting, first because of its unknown etiology in most cases; secondly, because of the as yet unknown pathology; thirdly, because of mistakes in diagnosis; fourthly, because of unsatisfactory results in treatment. The first patient is a boy fourteen years old with a history of syphilis in the mother. He appears idiotic, saliva constantly dribbles from his mouth and he acts rather silly. His sister, however, thinks he is very bright, a mistake too commonly made by parents and relatives of idiots. Occasional flashes of intelligence in idiots and imbeciles are taken by them as signs of genius. This boy de-

veloped epilepsy several years ago after an acute illness of short duration. His fits are of the genuine idiopathic type of epilepsy and in his case usually occur in groups from two to twelve. There are intervals between attacks varying from days to weeks. The spells, however, have a tendency always to appear in the multiple form. Treatment has somewhat reduced the frequency of these attacks. It consisted in the administration of bromides and iodids, the last drug being given because of the specific history in the parents. It has been stated on good authority that in epilepsy due to syphilis in the parents the iodids do good. This case demonstrates that the bromids alone are inefficient and that the addition of iodids to each dose of bromid has been of material benefit.

EPILEPSY, GRAND MAL AND PETIT MAL.

Case 5. This case demonstrates the occasional occurrence of epilepsy in infants or at least indicates the origin of epilepsy in the so-called teething convulsions. The patient who has a good family history was normal up to the age of ten to eleven months when teething convulsions of a violent type developed. The convulsions persisted, however, long after the baby cut his teeth. At first they recurred almost daily, later they appeared in intervals of one month. These convulsions were of the epileptic type with the short tonic followed by the longer clonic convulsions, with foaming at the mouth, biting of the tongue, drowsiness regularly following these attacks. The epileptic fits continued at irregular intervals until about five years ago, when the mother felt overjoyed at the fact that her boy was cured. She noticed, however, at that time a different type of spasm. The following is a description of the mild fits: The patient suddenly turns pale about the mouth, assumes a vacant stare, sometimes smacks his lips, drops articles he may hold in his hands or, if speaking, interrupts the conversation, and the attack is over. These spells never last more than one minute. Since the appearance of these attacks five years ago the patient's mentality has somewhat suffered.

He is quite listless, does not get on at school as well as formerly, is very timid. He never was destructive and gives one the impression of a mild type of imbecility. Examination for organic nervous disease reveals negative findings. In connection with this case it is interesting to note some of the stigma of degeneracy sometimes found in epilepsy. The patient's ears are rather high and too far backward. The lobules are adherent to the skull. The Darwinian tubercle is well marked in each ear. The palate and teeth show no abnormality, but the chin is narrow and prolonged out of proportion to the rest of the face. The head appears flattened from side to side, and altogether may be called microcephalic. These forms of epilepsy are more serious than the convulsive type, notwithstanding the opinion held by some practitioners to the contrary. There is usually more mental impairment in cases of *petit mal* and treatment is not as satisfactory. The so-called automatic states of epilepsy are more common in *petit mal* and even crimes of a most horrible nature have been committed during these dreamy states accompanying or following *petit mal* attacks of epilepsy. The ordinary treatment with bromids while it has a salutary effect in most cases of *grand mal* is not as effective in the forms of *petit mal*. Our case, however, contrary to my expectation has greatly benefited by treatment, as he has been free from attacks for two months when formerly spells would appear almost daily. The treatment consisted in the administration of twenty-five grain doses of sodium bromid, taken three times daily after meals.

PERIPHERAL FACIAL PARALYSIS.

Case 6. The patient is fifty-five years old, a laborer, with no bad habits and a good ancestry. About seven months ago he exposed himself to a draught of cold air, which seemed to have struck his left side particularly. The following morning he noticed a peculiar "wooden" sensation in the left half of his face and the mirror informed him of a deformity, a sort of "twisting" of the entire face to the right. He ap-

peared at my postgraduate clinic one week afterwards, where I recorded the following: All muscles of the left half of the face are involved; those of the forehead as well as the lower facial muscles. The affected side is perfectly motionless and expressionless, the naso-labial fold on that side has entirely disappeared and the left angle of the mouth droops. The nose deviates toward the sound side and the left nasal antrum has entirely collapsed. The eye-brow of the left side stands about one inch lower than the sound side. The left eye cannot be closed and tears constantly run down the cheek, due to the ectropion that has resulted from the paralysis of the palpebral sphincter. In speaking, the left side weakness becomes more apparent still and whistling is impossible; the cheek of the paretic side bulges out like a fish bladder and the patient can only frown with the right side of the face. An electrical examination with galvanic and faradism reveals the typical complete reaction of degeneration in the paretic side. Taste was impaired in the anterior two-thirds of the tongue. The diagnosis was: Severe case of peripheral facial paralysis, with an unfavorable prognosis as regards duration. At the present time (seven months after onset) the paralysis is but slight, but still recognizable. When the face is at rest but little asymmetry can be noticed, but as soon as the patient begins to speak, attempts to wrinkle his brow, shows his upper teeth, etc., the paralysis becomes evident. He can now almost entirely close his left eye and Bell's phenomenon can no longer be demonstrated. I have no doubt he will continue to improve, although he presented a very unfavorable case. Most cases of facial paralysis, the so-called Bell's palsy, recover much sooner. The treatment administered was, at first large doses of salicylate of soda, later strychnine sulphate in grains of 1/30 three times daily, combined with electrical treatment three times weekly.

INCIPIENT TABES.

Case 7. The patient is forty-two years old, unmarried and presents the following

history: About fifteen years ago he had gonorrhœa and a doubtful chancre which lasted from four to six weeks. He does not remember ever to have had symptoms of secondary or tertiary syphilis. He is very intelligent and apparently does not try to conceal the facts. He admits to having led a life of dissipation for several years. About seven years ago certain pains made their appearance in his lower extremities which came on rapidly and would just as rapidly disappear, leaving the parts affected somewhat tender. These were considered rheumatic by some and neuralgic by others. At about the same time an ulcer developed under the base of the second toe on the right foot which refused to heal under ordinary surgical treatment. At times it would heal, then would break open to again close for a short time. Several surgeons have been consulted and some called it a weeping tendon, others an osseomyelitis. There was so much ulceration that skin grafting became necessary, but this operation was a failure and finally the entire second toe had to be amputated. At the present time the patient is free from pain in the former seat of this trophic disorder. There is no doubt that he had a simple perforating ulcer of the foot, the so-called *mal perforans* occasionally found in tabes and in syringomyelia and less commonly in other nervous disorders. The patient is well nourished, although not robust, and presents few symptoms of tabes. His bowels are regular, his bladder is occasionally sluggish, so that he has to force out its contents, but as a rule the sphincters functionate normally. There is no girdle sensation, no anesthesia on trunk or extremities, no Biernacki nor Bechterew signs. The deep reflexes are so much reduced that they can be elicited only with Jendrassik's method of reinforcement. Inco-ordination is very slight in the left upper extremity, normal in the right and almost normal in the lower extremities. The gait is not ataxic. The Argyll-Robertson pupils are present and there is a slight difference in their size. Lightning pains are still occasional visitors.

The patient has regulated his life so that he is free from responsibilities and cares and appears to enjoy fairly good health. The case is instructive as affording an example of tabes beginning with a perforating ulcer of the foot years ago and further that the reflexes are still present, although reduced, and that the other symptoms of tabes are ill-defined with the exception of the Argyll-Robertson pupils. But cases of tabes are recognized early nowadays because we are more familiar with the early signs of the disease.

TABES WITH OPTIC ATROPHY.

Case 8. The patient before you is a man forty years of age, who had an alcoholic ancestry, whose brothers and sisters were addicted to alcohol and who himself has been a hard drinker. His mother was an epileptic, but there was no other form of nervous disease in his family. Of venereal diseases he had gonorrhœa twenty-two years ago, chancreids twelve years ago and chronic urethritis about seven years ago. He positively denies syphilis. About two and a half years after one of his prolonged "sprees" he noticed a dull, heavy pain about the abdomen, which felt as though it encircled his body in belt-like fashion. A little later while in Texas friends noticed something peculiar about his gait which the doctors attributed to nervous debility. He never had lightning pains, nor attacks of gastric crises; he could walk in the dark the same as always. About seven years ago an incomplete cataract appeared in the right eye which interfered somewhat with his vision in that eye. One year ago almost complete loss of vision occurred in both eyes so that he became unable to count fingers. He can barely tell the difference between light and darkness. At the present time he presents complete absence of the deep reflexes in the lower extremities, a total double optic atrophy which shows the peculiar pearl gray appearance so often observed in tabes. There is only slight muscle and joint sense disturbance and Biernacki's sign can be detected on the right side only. The inco-

ordination in the upper and lower extremities is very slight. This is in accord with our experience in tabetic optic atrophy. Whenever optic atrophy occurs early or as the first sign of the disease the inco-ordination is either very slow in appearing or is not manifest at all.

TABES WITH CHARCOT JOINT AND PERFORATING ULCER.

Case 9. H. H., a German laborer, was well until about two years ago. At that time he went to bed well and discovered upon awaking the next morning that his left knee was swollen to about five times its normal size. In attempting to walk he had no difficulty, except that his leg made a peculiar angle with the thigh. Although the deformity became worse during the next few days, he never experienced pains in the parts affected. He denies venereal disease, but he has been exposed and is unmarried. He gives a history of pain in his abdomen and of lacerating pains in his lower extremities. Examination reveals a large oval swelling of the left knee which gives to the finger the impression of a bag containing pebbles and which seems to move in all directions. No amount of manipulation causes the slightest pain or discomfort. This is a typical Charcot joint and constitutes one of the trophic disturbances found in tabes. The patient has in addition a well-marked painless ulcer penetrating the plantar surface of the left foot over the large metatarsophalangeal joint. There are no tendon reflexes and Argyll-Robertson pupils are present. Tactile sensation is unimpaired except on penis, scrotum and over a small area just below Poupart's ligament. Pain sensation is diminished everywhere, especially on the left side of the thorax anteriorly.

100 State street.

PNEUMONIA IN CHILDREN.*

BY JOHN C. COOK, M. D., CHICAGO.

Pneumonia in children owes its pathogenesis to the same micro-organisms and

frequently runs a clinical course similar in many features to the disease in adult life, yet there are sufficient modifying conditions and influences that we feel justified in discussing it by itself.

Clinically, it may be divided into two great subdivisions, namely, Croupous or Lobar Pneumonia and Broncho Pneumonia (catarrhal lobular pneumonia).

While a child may have either form at any age, it is more susceptible to one or the other forms at different periods of life.

The bronchial variety takes prestige in the earlier stages. Of 426 cases reported by Holt 53 per cent was during the first year, with only 33 per cent in the second, and 11 per cent in the third year; 2 per cent and 1 per cent in the two succeeding years. Of 500 cases of lobular pneumonia by the same observer, 15 per cent occurred in the first year, 62 per cent in the second year and 21 per cent from the seventh to the eleventh years.

Thus it will be seen that bronchial pneumonia is the most common form of primary pneumonia under two years of age, and nearly the exclusive form of the secondary type throughout childhood. Of 500 cases taken from all sources:

Primary	29.6 per cent
Secondary to bronchitis.....	8.2 per cent
Secondary to and complicating	
measles	18.1 per cent
Complicating pertussis.....	13.3 per cent
Complicating diphtheria.....	8.4 per cent
Secondary to and complicating	
ileo colitis.....	3.8 per cent
Complicating scarlet fever....	1.5 per cent

In the primary cases I have included the cases that accompanied influenza.

Bronchial pneumonia may be divided into two varieties, acute congestive and subacute secondary to some other pathological condition.

Of the acute congestive variety the onset is sudden, the temperature runs high, 104 to 107, rapid and labored respiration; the patient may early become cyanosed;

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

occur, and finally may be followed by tuberculosis.

The prognosis is always serious in bronchial pneumonia, and in infants dangerous to life, depending on the previous condition of the patient and upon the character of the infection that the pneumonia is secondary to. In private practice the mortality is from fifteen to thirty per cent, according to the condition of the patient prior to the disease, and the season of the year.

In lobar or croupous pneumonia the picture, as well as the course of the disease and the pathological condition, is very different from the bronchial types. The onset is sudden, sometimes accompanied by a chill, but more frequently by a convulsion or nausea and vomiting. The temperature goes up to 104 or 105 and stays; pulse and respiration are both increased in frequency, and the relative ratio is changed. The child is sick and quite willing to be considered so and remain in bed. The face is frequently flushed and the desire for food is gone. The bowels may be constipated, but more frequently are relaxed—three to four green movements a day.

In 118 cases reported by Morse⁵⁶, the duration of the fever ranged from four to eighteen days, the average being seven days. The highest temperature noted was 107 and the lowest 103, and fell by crisis in 64 and by lysis in 29 cases.

The disease was located in the right upper and lower lobes in seven cases; the right upper and right middle in one case; the right upper and middle lower in two cases; the right lower and left lower lobes in five cases; the left upper and left lower lobes in two cases. A single lobe was involved in 86 per cent and more than one lobe in 14 per cent. The whole lobe was involved in 60 per cent and a part of a lobe in 40 per cent.

The pulse rate was between 140 and 180, and no case died in which the pulse rate was not over 140.

The respiration was between 50 and 80. No case died in which the respiration was below 55. 26.3 per cent died.

The complications of pneumonia are in so many instances of such a grave character and their management so different from the original disease that I will not attempt their discussion, but content myself with mentioning the more important ones.

In order of frequency of occurrence, pleurisy naturally heads the list, but many times goes unnoticed owing to the very slight disturbance it causes in a large number of cases. It is only when there are large effusions that require surgical interference or become septic and an empyema results, that the consequences are grave enough to merit special attention.

Meningitis or meningeal irritation has been of more frequent occurrence and more severe in character the past season than the classic literature would lead us to expect.

Both endocarditis and pericarditis are complications sometimes to be met with, but we more often meet them in the later years of childhood than in infancy.

Kidney irritation with albumen and cases is sometimes encountered, but is usually of short duration.

Jaundice is one of the rather infrequent complications and, as a rule, of short duration.

Gastro intestinal irritation with its consequent meteorism is a condition to be reckoned with which gives us, in many cases, a good deal of anxiety. Where a large area of lung is involved respiration is rapid and labored. To have the intestinal canal fill with gas to the extent of pressing on the heart and diaphragm is a serious matter.

Delayed resolution is a condition occasionally met with and is a source of anxiety until the lung clears up.

Last but not least of the complications is a pneumococcus septicemia that may accompany a very small lung involvement and prove serious.

Otitis media occurred in 17.8 per cent of Morse's cases. Both ears were involved in fourteen cases and one ear in seven cases.

The diagnosis of pneumonia in children

is frequently a serious problem. The cardinal signs are not always present, especially in infants.

The temperature curve affords us little help, especially in the onset. The pulse alone is of little aid, but the combination of the pulse and respiration are of the greatest assistance, the normal ratio being 1 to 4, and any deviation from this ratio, even as slight as 1 to $3\frac{1}{2}$, 1 to 3 and especially 1 to 2, is considered by Northrup to be pathognomonic of pneumonia in children. This in connection with the high leucocyte count is of the greatest value in making a diagnosis in atypical cases. The count is increased about 24000 above normal, making it about 30000 (Hektoen).

The physical examination is many times difficult and unsatisfactory. Percussion is not of much value before the fourth or fifth day, or in central pneumonias or where the locus morbi is under the shoulder or along the spinal border of the lung.

Owing to the thinness of the chest walls and the facility with which they transmit vibrations, oscillation is much more satisfactory, as a rule. Crepitant rales can always be heard at some stage of the disease, but it must be remembered that they are not constant, and frequent examinations are necessary to find them.

Measurements are not as valuable as in adults except where a large area of one lung is involved.

The pain element of pneumonia is significant, but it is as liable to be located in the abdomen as the chest, and especially in the region of the appendix.

Inspection is of value, especially to distinguish between thoracic and abdominal disorders, the diseased part always being the least active. Palpitation affords us a ready means of locating small areas of disease in the thoracic cavity.

To differentiate between lobar and bronchial pneumonia one must take in account the age at which the child is susceptible to either form of the disease. This is well illustrated by the following table:

BRONCHIAL PNEUMONIA.

During the first year.....	224
During the second year.....	142
During the third year.....	46
During the fourth year.....	10
During the fifth year.....	4

LOBAR PNEUMONIA.

During the first year.....	76
During the second to third years.....	309
During the seventh to eleventh years	104
During the twelfth to fourteenth years	11 (Holt)

This shows a greater susceptibility to the bronchial type in the first year and a tendency for the disease to assume the lobar form as age advances. Also as to whether it is primary or secondary to some previous existing disease. The onset and temperature curve are valuable indicators.

To differentiate between pneumonia and appendicitis is important, for not a few cases have been operated on in recent years for appendicitis who really had pneumonia. Here one must depend upon the respiration and pulse ratio, as the leucocyte count is equally high in both, and, if necessary, a blood culture should be resorted to.

The prognosis in bronchial pneumonia is always serious, but much depends upon the previous condition of the patient, the present surroundings, and as to whether it is of primary or secondary origin.

During the first year 202 cases gave a mortality of.....	66%
During the second year 102 cases gave a mortality of.....	55%
During the third year 33 cases gave a mortality of.....	33%
During the fourth year 6 cases gave a mortality of.....	16%
During the fifth year 3 cases gave a mortality of.....	0%

Holt.

The same author says of 1295 collected cases of pneumonia 39 died, giving a mortality of three per cent.

In Morse's 118 cases 31 died, giving a mortality of 26.3 per cent.

I believe that all authorities agree that the mortality is in inverse ratio to the age, at least in the very young. The mortality is increased where the temperature runs high. The occurrence of vomiting, diarrhoea or

convulsions late in the disease is unfavorable.

It is not surprising that a rather wide range should exist in the mortality reports when one takes into account the different views of the treatment of pneumonia in children—Holt with his steam inhalation, Northrup with his refrigerating treatment and others with no treatment at all. But there is one thing I believe all agree on—that the patient should have the best and purest air obtainable and plenty of it, and that there is no specific. Yet, if there is little to do for the disease, there is much to do for the patient. You are the pilot of a heavy laden ship in a rough sea, and many times all of your ingenuity will be taxed for ways and means to keep her abreast of the storm.

There is probably value in most of the modern methods of the treating of pneumonia, if we will only select the method best suited for each case. The inhalation of steam, as advocated by Holt, has its place and is valuable in the acute congestive case, and affords relief and comfort quicker than anything else. The cold fresh air advocated by Northrup acts admirably in the sthenic cases.

No antipyretic except water and an ice cap to the head should be used. If tubing is done, I believe tepid water will give as good results as cold with less shock to the patient. Plenty of fluid should be given. If not taken in food, as milk or broth, water should be insisted upon. If not tolerated by the stomach, high enemas of normal salt solution should be administered to keep up the balance of fluid in the system. This will enable the kidneys and skin to eliminate more toxic matter than any drug I know of.

Don't weight an over-taxed, feeble thoracic muscular system down with a heavy poultice or wrap a nervous child up in mustard. Keep a close watch of the heart. If the second sound is getting feeble, strychnine will serve you a good purpose. If the respiratory muscles are giving out, caffeine and

atrophine will help to bridge over. Above everything else, keep the alimentary canal in good order, and the patient nourished.
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THE PRACTICAL SIGNIFICANCE OF CERTAIN COMMON SYMPTOMS IN THE UPPER ABDOMEN.*

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The upper and righthand corner of the abdomen is a field of present-day investigation which promises valuable returns for all efforts made to clear up its symptomatology. It has fallen to the lot of a new candidate for honors in the field of human diagnostic investigation to aid in this beneficent work, viz., the skilled operating surgeon. Surgery today, in the hands of the competent surgeon, bids fair to state definitely the reasons for the existence of the symptoms in the upper belly, long recognized by the internist. But neither the internist nor the pathologist, dealing, as they must, with things unseen within the abdomen of the living, have ever been in a position to point out their true pathology. This surgical investigator of living human pathology, it is hoped, will succeed in doing for us in this region what he has been able to do in the lower belly and pelvis. The patients suffering from pathology in their liver and the gall bladder, the right half of the stomach, and the first portion of the duodenum are legion. True, there are other very important originators of pathology in the upper belly, viz., the pancreas and the right kidney; but my subject precludes more than the naming of these organs, because the task that I have set as the subject for this paper is "The Practical Significance of Certain Common Symptoms in the Upper Abdomen."

The first of these in importance is pain. Pain in the abdomen seldom indicates by its expressed location the point from which it originates. This fact has led some one to remark that the sympathetic nerve has no sense; meaning thereby that the point of pain indicated by the patient may have no

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

reference to the pathologic entity which originates it. Ask the patient to indicate the point of greatest suffering, and in the majority the hand will move in an aimless way over the whole abdominal region. This is true regardless of the grade of severity, except possibly where the peritoneal involvement is slight. When the pain is severe, general muscular rigidity over the abdomen is the rule. When the lesion is only great enough to give a moderate degree of distress, the muscular rigidity is frequently limited to the region above the lesion. This point also is seldom accurately located by the patient. In the average chronic case not having an acute exacerbation, lesions about the gall bladder are less sensitive than those of the stomach. Lesions involving the pyloric third of the stomach and gall bladder can not well be differentiated by external manipulative methods alone. Although pressure applied over the lower costal arch on the right side, as pointed out by Eliot in the *Medical Record* for Feb. 6, 1904, has been found very helpful in about two-third of the cases in which the symptoms pointed to inflammation in the region under discussion.

Eliot has shown that costal resistance is likely to be just as marked as is that of the muscles lower down, when covering an inflammatory process. This is especially true in abscess of the gall bladder and cholecystitis. This diagnostic aid has been found useful in my examinations of this class of cases for many years, as it has undoubtedly to others, both physicians and surgeons; but it remained for Eliot to point out and extend its use. I have found it especially helpful in the pain of the upper abdomen, in which appendicitis was one of the problems in the diagnosis. Pressure over the right lower costal arch, which does not elicit pain, will almost certainly exclude acute gall bladder trouble. It is also interesting to note the difference in costal resistance on the two sides, when the right upper belly is involved in an inflammatory process.

Light finger percussion, which elicits pain, is another valuable method of localizing ac-

tive inflammatory foci in patients who are not over obese. An ulcer in the stomach or duodenum can often be located in this way, and, when combined with the subjective symptoms present in the case, valuable information is obtained. It might be said, in passing, what has probably been said a great many times, or, if not said, certainly has always been understood by diagnosticians, viz., that a good diagnostician is self-made, and that a no small part of his skill is so subtle as to defy language to express it. The most that can be said is that diagnosis is the use in this day of the facts worked out by many observers, both clinical and laboratory, combined with the results obtained in the examination of many patients of one class. A combination of all these necessary and obtainable conditions will develop in the individual observer an educated instinct for diagnosis, which is invaluable.

Another source of pain is the distension caused by gas. Gas does not accumulate until the inflammatory condition, or its results, are great enough, as pointed out by Graham, to inhibit peristalsis. In this way can be explained one of the causes of the common symptom of distension in the upper belly, which makes the demand for the various anti-dyspeptic remedies. The more serious the localized inflammation the less peristalsis; the less peristalsis the greater the distension and pain which results from it. If this localized condition go far enough to perforate and the patient recover, it is at the expense of the adhesions which maintain the local lessened peristalsis; and an acute case is converted into a chronic one.

So far I have referred only to the pain which may result from lesions in the stomach or the duodenum. But the same general symptoms may develop also from inflammatory conditions in the gall bladder, with or without gallstones. It is interesting to note the frequency with which the introduction of food or drink into this corner of the abdomen give rise to pain, or at least an expression of distress, when any one of the organs in this corner is the subject of disease. Nature tries to keep the parts at rest by refusing

to retain in the stomach either food, drink or medicines, and we have been very slow to comprehend the purpose of Nature in this particular.

Another source of pain in the upper abdomen is the contact of the gastric juice with an ulcer in either the stomach or duodenum. This pain is an interesting and characteristic symptom. It is not many years ago that some of us were calling the cases which came complaining of distress in the stomach when it was empty, neuralgia. We learned from our patients that the greatest relief from the pain was obtained by keeping small quantities of food in the stomach. There is probably such a disease entity as gastralgia, which is functional in origin; but we all now believe that in the vast majority of cases it is a symptom, where inflammatory changes is the definite and underlying cause. An ulcer of the stomach or the duodenum, in contact with the acid gastric juice, will undoubtedly account for many of the symptoms of pain in the region of the abdomen under discussion. To quote from Graham, who also discusses contact of food on the ulcer, as follows: "Pain is due almost wholly to the irritant action of the acids on the open ulcer, with the added element of spasm. The greater the quantity of liquid in the stomach and the higher the degree of acidity the more severe the pain. In other words, intensity of pain and degree of acidity run about parallel. The irritant action of the food as a cause of pain, by passage over the diseased area, can not enter into the question; because anything that diverts, dilutes, neutralizes or removes the acid liquid lessens or entirely relieves pain. Antacids, as a rule, quiet for a time and remove nothing; vomiting or irrigation of the stomach relieves by removing the offending acid; but no rough particles of food which could irritate are found."

Most of those who have written on this subject agree as to the frequency of the pain and the formation of gas complained of by patients suffering from lesions in the stomach, duodenum and gall bladder. The next most frequent symptom mentioned is vomit-

ing. Among my own cases, however, nausea is more frequently spoken of than vomiting. Its relation to the injection of food, like that of pain, varies. Pain precedes it in the majority of cases, and it is the suffering from this that undoubtedly brings it on. If the ulcer is in the stomach, and is so located as to be brought early into contact with the acid gastric juice, then the nausea or vomiting will be spoken of as occurring within an hour or two of taking food; sometimes the patient will tell us that the pain comes at once. This is frequently due to gall bladder inflammation, and is especially common if there are adhesions about the gall bladder. If the ulcer is duodenal, then four or even six hours may go before the nausea may develop. If the nausea comes on early and is followed by vomiting, the rejected food will be but partially, if at all, digested.

An important determining factor here is the size of the stomach. If this is greatly dilated and, therefore, unable to pass its contents into the small intestine, the patient may suffer for hours; and then by vomiting or by the stomach tube be relieved of a foul, sour-smelling mass of undigested food containing quantities of mucus. Food coming from the stomach in such a state will exclude its ever having reached the small gut. This should be borne in mind; because, although the undigested mass may be removed four or even six hours after being taken into the stomach, it is evident that the latter organ is physically incapable of putting it into the duodenum. If it had, it would be a pul-taceous mass showing digestion; so that the degree of digestion is a clue as to its ever having reached the small bowel.

Another interesting fact, that perhaps may not properly be spoken of as a symptom, is that these patients in the first months or years of their suffering from disease located in these organs, seldom complain of loss of weight. Note, please, that I say in the first months or years. In the beginning, the majority of them are able to maintain their bodily weight, and frequently even to gain; but finally either the impaired nutrition long continued, or the infections which result

from the solution of continuity in organs and tissues so richly supplied with lymphatics tells on the bodily weight, and they begin to fail. Recently I had a case (cholecystitis) that had lost thirty pounds in three months, and was still losing when he entered the hospital for operation. When this time comes in the history of one of these chronic sufferers, he always brings with him the suspicion of the probable beginning of a cancerous process, with all that awful word stands for.

Bleeding from ulcer of the stomach or duodenum has not, in my experience, been a prominent symptom except in the cases that have had a long history and are far advanced. Frequently they will tell you that years before they had a sudden and severe hemorrhage, but none since; and that practically they had not seen a well day since it occurred. But this failure, on the part of the patient, to note the occurrence of hemorrhage does not necessarily imply that it has not been present. Where laboratory methods are made a part of the investigation of this class, it has been found that a large percentage have blood in the stools; if in considerable amount, blood passing in this way may give the stools a meconium-like look, which is spoken of in the textbooks as tarry in character. Macroscopically, this same kind of stool can be produced by the infected bile which may be thrown into the bowel from a gall bladder, the subject of cholecystitis. In this latter class of cases the hematin crystals, which are present in the former character of stool containing blood, will not be found, because of the origin of the color-giving substance in the gall bladder. It is interesting to note that the pain and distress which may accompany these cases of cholecystitis will usually lead to a symptomatic diagnosis of ulcer of the duodenum or the stomach. But the internist or surgeon who has seen many cases of ulcer of the stomach and duodenum will not find it necessary in the great majority, to examine the stools for hematin crystals. Indeed, a careful history well taken will, in the majority, determine the diagnosis so that there

need be no question as to the treatment which should be instituted.

These cases usually have periods in which there is an acute or subacute exacerbation of the trouble. At these times there is usually a moderate degree of elevation of the temperature from 100° F. to 101½° F. It rarely rises above this. The temperature curve not infrequently causes one to think of a possible tubercular element in explanation of its persistence. It reaches its maximum in the early afternoon, and gradually disappears toward evening. It differs, however, in that the 6 a. m. temperature is rarely found subnormal, except in the later stages of the condition, when general systemic exhaustion is pronounced. When this time comes, a subnormal temperature is the rule during the entire twenty-four hours. In addition to the temperature, at this time there is a moderate increase in all of the symptoms which have characterized the previous condition of the patient. There is a little more mental and physical depression; a little more localized distress in the upper right quadrant of the abdomen, especially after taking food, and in consequence of which there is a more pronounced fear of calling on the functions of the stomach, and with it the gall bladder. The patient is willing to drop his usual occupation, and, like a sick animal, seeks a warm and quiet place until the toxemia, which undoubtedly is at the bottom of his symptoms, is thrown off by whatever immunizing resistance he may possess. This is what I am pleased to call the gastric crisis of ulcer or cholecystitis. If resistance is good, the patient may recover his usual degree of health and drift along for weeks, months or years, until another paroxysm of the same kind and due to the same causes renders him inactive for about the same period as the previous attack. These cases are rarely diagnosed correctly, "biliousness" and "dyspepsia" being the words most frequently used as a descriptive of the diagnosis, and on which the treatment is based. But there comes a time in the life history of a large number where even a correct diagnosis is futile, as far as preserving the

life of the patient is concerned, because of alteration in the functioning tissues of the liver and pancreas, due to persistent infection. I believe, too, that further investigation will show that the results of this infection are chemical through the intervention of bacteria at work in ulcerating areas in the stomach, duodenum or gall bladder.

I have purposely avoided the consideration of other symptoms which you will call to mind as almost invariably present in the condition here discussed. Among these are pain radiating in the region of the right scapula or half way around the waist line on the right side; jaundice; the belching of sour gas; "cramp colic," which is a name descriptive of a condition frequently badly treated by the use of large doses of morphin. These patients are usually obstinately constipated. They often complain bitterly of a bad taste in the mouth and are aware of a foul breath. The abdomen is, as a rule, distended with gas, showing the lessened peristalsis. They are often more hungry than otherwise; but food gives them neither comfort, satisfaction nor nutrition.

To generalize further: The individuals who may suffer or are suffering from symptoms referable to the upper abdomen range in age from the young adult to those advanced in years. As to previous symptoms, almost anything may be true, and nothing may be true. In the majority, however, two words are used which are descriptive only in a symptomatic way, and from this standpoint have a long and useful career. I refer to "dyspepsia" and "biliousness," two words which we Americans have probably used as often as any two words in the language. Every patient suffering from a train of persistent symptoms heretofore known as dyspepsia has or has had either a gastric or duodenal ulcer, and is suffering from its sequel. Every patient suffering from recurrent attacks of so-called biliousness has either gallstones or a chronically inflamed gall bladder, which is another name for a chronically affected gall bladder. Unfortunately the class of patients which in one may seem to refer his symptoms to the stomach, in another practically the

same symptoms will point to the gall bladder as the organ at fault. Fortunately, in the majority of cases, only one primary affection is present. Unfortunately it is not yet certainly known that the removal of the probable primary affection will permit of recovery from all its consequences. Frequently we will find an infected gall bladder (cholecystitis) and with it the stomach is dilated. The primary condition under these circumstances will be difficult to determine, even when the abdomen is open. Such difficulties in diagnosis do not militate against the clinician, as these conditions are purely surgical, and the differentiation in many cases, as well as the proper treatment, must be made on the operating table.

Localized peritonitis and recent adhesions, when the abdomen is open, will serve as infallible guides in the chronic cases with acute exacerbation; while enlarged lymphatics without adhesions will point the way in the more acute cases. Enlargement of lymphatic glands on the exterior of the body, as a result of infection of nearby tissue, has been noted for an indefinite period. Surgeons, however, were slow in recognizing the lymphatic enlargement found within the abdomen during exploratory operations as due to the same cause, viz., infections. Since the work of Poirier and those associated with him much has been done to advance our knowledge of the special anatomy of the lymphatics. Since their work appeared it has been a much simpler matter to determine the probable location of a lesion, the seat of persistent infection within the opened abdomen. The intra-abdominal lymphatics as carriers of infection open up an immense field for practical investigation as to the possibility of various recognized lesions, especially in the pancreas. Grossly we know what they can do in infections of the appendix, and as disseminators of cancer their work is all prevailing.

The writer has been interested for some years in the question of chronic infections of the liver from persistent gall bladder inflammations, with or without stones; and infections of this same organ as a result of

ulcer of the stomach or duodenum. He early learned, in his gall bladder work especially, that a certain small percentage of his cases would die by slow degrees regardless of the favorableness of the primary results following operation; and that a certain other class of nonoperative cases will die, with exactly the same symptoms, and when brought to the post-mortem table the pathologic findings are the same in both classes of cases. The following cases will, I think, illustrate this fact very well.

May 19, 1899, I operated on Miss C., aged 26, and removed a large number of varying sized so-called mulberry calculi. Previous to her operation she had suffered from the clinical symptoms of gallstones, together with a chronic cholecystitis. The liver was not enlarged, although notes of the case made at the time distinctly state that the whole liver region was tender to both percussion and pressure made over the costal cartilages. This case was drained and made a good operative recovery as far as the time spent in the hospital was concerned and afterwards while drainage persisted. But she never fully regained her health and finally died, twenty-two months after the operation, with every symptom of internal hemorrhage. Before this developed, however, she had the ordinary symptoms of a mild but persistent cholecystitis. An autopsy was made by Drs. Jesse Rowe and J. C. Creel, both of Abingdon, Illinois. They reported to me the findings as follows: About one quart of fresh clotted blood in the upper abdomen, the source of which was uncertain. A small, cauliflower-like growth surrounded the common duct, which was patulous. Several soft stones were found in the gall bladder, which was fastened to the anterior abdominal wall. The inner surface of the gall bladder was inflamed and roughened, and when stretched over the finger looked like the surface of a nutmeg. The bile was thin and tarry in appearance. The liver was not enlarged, but yellow, with a gross appearance of fatty degeneration. Unfortunately no specimens were preserved from either the liver or the growth about the common duct. About the

time of the operation there was no appreciable growth about the common duct, and only the usual enlargement of the lymphatics, where sepsis is found in the gall bladder, was present.

My next fatal case came June 20, 1901, Mr. T., aged 77. He also had a history of chronic cholecystitis, with the ill health which it engenders, extending over a period of years. On opening the abdomen, a greatly enlarged gall bladder was found capable of holding nearly a quart of fluid, together with a single stone weighing forty grains, which was loose in the cystic duct. The fluid which filled the gall bladder was thin, black, degenerated-looking bile, which characterizes this class of cases. This patient's liver was enlarged and tender to both manipulation and percussion. Not to burden you with details of the post operative history, I will merely say that this patient died in twenty-three days following operation, with a continuation of the symptoms of the same kind of infection which existed previous to his going on the operating table. At autopsy this liver was found enlarged, and sections prepared for the microscope showed extensive fatty degeneration.

My next case of this class was Mrs. C., aged 61, operated on Oct. 2, 1901. This patient gave a history of severe gallstone attacks extending over a period of twenty-five or thirty years. She had the classical symptoms of stone in the common duct. At the operation I removed a stone from the common duct the size of a pigeon's egg. Its upper or gall bladder end was faceted in two places, showing the pressure of two additional stones; these were also removed. These two were equal in size to the first. This woman lived fifty days, dying, as the other two patients, exactly in the same way. On autopsy, this liver was found to have undergone the same fatty changes that characterized the liver in the case of Mr. T.

Now, then, bear with me while I partially relate the history of a case that I saw a few weeks ago. Mr. B., aged 54, but looking much older. Marked atheroma of the radial and temporal arteries. Has always been

temperate as to the use of alcohol and tobacco. No specific history. Has suffered from chronic irritation of the stomach for twenty years. Gives every symptom of chronic ulcer of the stomach, possibly now malignant. Asks relief because of what he calls his "chronic stomach trouble." Physical examination discloses a stomach with its lower border on a line with the umbilicus. Appendix tender; kidneys negative. The liver in this patient is very small, evidently markedly cirrhotic. Pressure over the costal arch elicits no pain on either side. This case has not yet been brought to operation; but when he is, what will we find? I believe that it will be both a chronic ulcer of the stomach and a chronic cholecystitis. Further, I believe that the cirrhosis of his liver is the result of long-continued infection from his ulcer in the stomach, or the chronic inflammation of the gall bladder, or both. I believe also that Miss C., above mentioned, would have had the same kind of a cirrhotic liver as is now present in Mr. B. could she have lived long enough, i. e., had a smaller dose of less virulent infection than she evidently did have, and had not the probable malignant condition found on autopsy intervened. As long as we have ulcer in the stomach or duodenum or an infected gall bladder to furnish a long-continued infection through the lymphatics to the liver and pancreas, we are sure to have occasionally a case which will die following operative procedures in the upper abdomen, regardless of the skill with which such operative procedures are conceived or by whom carried out.

This phase of the question of chronic symptoms in the upper abdomen as indicative of the pathology that may develop there is, I believe, most important, and so far as I know has not been thoroughly worked out, except possibly by Quinke, quoted by Eisendrath, as follows, in the paper mentioned below: "The clinical picture of the cholecystitis usually predominates, so that the cholangitis, with its grave influences on the liver parenchyma, is marked. The course of cholangitis seems to be most acute with

virulent colon bacilli; more chronic with staphylococci and streptococci." These writers (Eisendrath, and Quinke, whom he quotes) makes no mention of the possibility that these infections may be the cause of cirrhosis of the liver in an individual otherwise free from the usual history that precedes the average case of this disease, viz., chronic alcoholism. Eisendrath's paper, which appeared in the Nov. 30, 1901 number of *The Journal of the American Medical Association*, is a valuable contribution to the literature of infections of the liver following acute cholecystitis.

Closely related to the above is the great question of cancer of the stomach. If overlooked, infections can produce such dire results; and, as we are slowly coming to realize that they can, what shall we say of this most terrorizing and hopeless condition of them all? You and I know that at the present day, when the diagnosis is made, the treatment in the great majority is by abandonment of the patient to his fate. We have, as yet, no means of making an early diagnosis, either in cholecystitis, cholangitis or in cancer of the stomach, but we have, as I believe I have pointed out above, symptoms which can be very nearly interpreted aright when it comes to these other conditions which are so common in the upper abdomen, certainly interpreted near enough to know that the only hope of permanent cure is by the aid of surgery. When this time comes, as it surely is coming, cancer will be diagnosed in its earliest stages when the surgical treatment will take into consideration the distribution of the regional lymphatics, which in this situation, as pointed out by Cuneo, are the most favorably situated of any in the body for permitting a radical cure. Thus in curing conditions in the upper belly, which give rise to many distressing and common symptoms, we attain a greater end in the promise of a more permanent relief for our cases of chronic infections of the liver and of gastric cancer. In the realization of this, the internist and the surgeon must join together. If they do not, the records of both in diseases of the liver, stomach, duodenum,

gall bladder and pancreas will continue to be a page of regrettable failures.

Discussion.

Dr. J. G. Franken, Chandlersville: Dr. Percy made use of an expression which pleased me very much, and that is, that the sympathetic nerve is without sensation. It is true that the objective as well as the subjective symptoms very frequently lead us astray so that we can not come to a positive conclusion in our diagnosis. In this connection, I would like to relate briefly a case similar to those described by Dr. Percy.

Some six or seven months ago, a young man came under my observation for a short time, and again came under my observation about three weeks ago, when I held a post-mortem on him. Between the time I treated him and his death he had been under the care of six or eight physicians, going from one to another, trying to get relief. His case was diagnosed variously—appendicitis, cholecystitis, cancer of the stomach, abdominal disease of some kind. He had hemorrhoids, and one physician even went so far as to say that his whole trouble was due to the hemorrhoids. When he died, I was asked to hold the post-mortem.

I opened the abdomen and found an enlarged cholecyst—about three inches in length and two and a half inches in diameter—distended with a viscid, though thin, fluid. The pancreas was atrophied, but otherwise there was nothing to be found. The stomach was normal; the appendix was intact; there was some obstruction in the common duct, which later was found to be tubercles, and there was a pathologic condition of the small intestine extending from the duodenum to almost within an inch of the ileocecal valve, continuous from one end of the small bowel to the other. A diagnosis was made without difficulty—a miliary tuberculosis of the intestine, a dry tuberculosis. There had not been any peritonitis at any time, nor any effusion; the only symptom, subjective, had been pain, constant, incessant pain. There was pain simulating colic; pains of a gastric nature; pains of all kinds, located chiefly around the umbilicus, but frequently described by the patient as being in the appendical region or over the gall bladder; sometimes in the stomach; sometimes over the spleen; always varying and changing position from one part of the abdomen to the other.

There was no microscopic evidence of tuberculosis in the lungs, liver or kidneys.

Dr. S. M. Miller, Peoria: I desire to emphasize a point made by the essayist, that of the inflammation conveyed by the lymphatic system, which has been a neglected field of investigation, in my opinion. It has come to my notice within recent years through observation of cases in which the possibility of an early and positive diagnosis was to be attributed to the detection of enlarged glands in places remote from the primary lesion, which was in the up-

per abdominal segment. It has been stated by men of repute that in quite a few of these cases (— per cent.) the supraclavicular glands will be found enlarged.

The difficulty of the diagnosis of affections of this locality is well known, and the ability to make a positive diagnosis in all cases or even in the majority of cases is not possessed even by expert diagnosticians. The rule of probability must obtain. The ultimate diagnosis generally will be made at an exploratory incision.

Dr. J. M. G. Carter, Waukegan: I am very glad to have had the opportunity of hearing this very excellent paper, and I can confirm some of the statements made by the essayist in regard to the indefiniteness of symptoms. In this connection I wish to mention one case that occurred in my practice, and which is rather rare in the literature.

I was called to see a lady who never before had complained of any pain in the abdomen. When I first saw her she complained of a little distress; not very much pain, but a distressed feeling. I made a diagnosis of gallstones and advised operation. On the second day, I called in a surgeon, who said that in the beginning of the trouble an operation would, perhaps, have been the proper thing to do, but at this time he would advise against operation.

She had very little fever. At first her temperature went up to 103° F., but gradually dropped to 101° F., and then it remained in that neighborhood. The symptom that caused me so much anxiety was the rapid failure of the heart; the increased rapidity of the heart beat and the great weakness of the heart muscle.

Death ensued on the third day. An autopsy was granted. We found that the wall of the gall bladder was very thick, about one-fifth of an inch, and very much distended, about three times its normal size, filled with a dark grumous liquid and containing a few gallstones. The tissue of the wall was black in color, except at the upper portion near the outlet. It was a case of **gangrene** of the gall bladder, which also extended to the surrounding tissues.

The case was a very remarkable one, and I thought that the narration of it might, perhaps, be the means of leading some physicians to suspect, in cases where they are not allowed to take advantage of the benefits to be derived from an explanatory incision, that it is a case of gangrene of the gall bladder.

Dr. Denslow Lewis, Chicago: I wish to commend the practical deduction made by the essayist that in many of these cases the ultimate resort is an appeal to surgery. Two years ago I heard a well-known German surgeon say that he was not prepared to insist that every case of stomach trouble not cured by six weeks at Kissengen should be operated on, but he was pretty nearly ready to do so. The time has come when chronic dyspeptics should know that a gastro-enterostomy which drains the stomach and perhaps places at rest an ulcerated mucous membrane is worthy of serious consideration. Certainly when the diagnosis of ulcer is prob-

able there should be no delay. Even if an accurate diagnosis is impossible, an exploratory incision will set many a doubt at rest and, with the parts exposed to view, will permit the performance of any operative procedure that at the time may seem advisable. I am in hearty accord with the position taken by the essayist, and I believe his suggestions are most timely.

With increasing experience, we will all resort to operative procedures in the class of cases under consideration more frequently and much earlier than we have done in the past, and, I believe, our results will be correspondingly better.

Dr. Adams: Dr. Lewis seems to be advocating operation in all these gall bladder cases, and it occurred to me that it might be interesting to us if the essayist, in closing, would give us his opinion as to the cause of the fatty degeneration of the liver in the case he enumerated, and which resulted seriously.

Dr. Percy (closing the discussion): I am very grateful for the discussion my paper has elicited. I can assure you that I came before this section with some trepidation. It has gotten to a point now that to be a surgeon carries with it the assumption of martyrdom, especially after hearing the address before the surgical section this morning.

There are two things that I hope I have impressed on you and made plain in my paper. One is the periodicity of gastric ulcer. There is no literature on this subject, either in this country or in Europe. It is a subject that has befogged all of us. You have a case of gastric ulcer which you treat for a period of two or three weeks by means of various antiseptics, hemoglobin, rest and rectal feeding, and the case apparently gets well. Naturally, you attribute this to your treatment. I believe your treatment had very little to do with it, because, after a lapse of a few months, the patient returns, exhibiting all the symptoms that characterized the previous attack, with the addition, possibly of symptoms of infection of the liver, due to the infectiousness of the gastric ulcer—the second point that I want to impress.

Eisendrath, of Chicago, reports one case of acute infection of the liver with abscess formation following an acute cholecystitis with pus. Many of our cases, and one was mentioned by Dr. Carter, will have exactly that history. His case would have died if it had been operated on when the doctor first advised operation. It certainly would have died, because they all die. That is what I referred to in my paper when I said that regardless of who does the operation and how brilliantly conceived, these patients all die, because there has been a slow infection, persistently fought by the lymphatics, but persisting in the gall bladder, that is slowly destroying the liver.

There are many cases without any history of alcoholism, that have a cirrhosis of the liver, and we wonder where it came from. All these cases have an infection of the gall bladder, or an ulcer of the stomach infecting the liver.

Dr. Miller referred to the difficulty of diagnosis. The diagnosis of lesions in this region

are like an old shoe—the longer you wear it the more comfortable it becomes. The more cases you see, the more conscientiously and earnestly you strive to interpret the symptoms correctly, the easier it becomes to correctly interpret them, until, finally, you come very near a correct diagnosis in every case.

The rapid increase in the pulse rate in Dr. Carter's case was the result of an infection; and that is true in all these cases. It is the one symptom that will first attract your attention, and it will continue for days before the heart wears out.

As to the cause of fatty degeneration of the liver, I know of no explanation except chronic infection, which is probably chemical in its nature.

We all know that there are cases that will absolutely refuse operation; and in the aged, those over 70, it is not desirable to operate unless the conditions are favorable. That class of cases I have succeeded in making comparatively comfortable by reducing the number of their periodical attacks of chills and pain by giving them five grains of salicylate of soda and five grains of benzoate of soda three or four times daily. I have seen a number of these chronic sufferers go on for years under this treatment without an attack. The explanation of this is, that these antiseptics are eliminated through the liver and gall bladder.

PATHOLOGY AND DIAGNOSIS OF THE LESIONS OF THE SPINAL CORD AND PERIPHERAL NERVES.*

BY FRANK PARSONS NORBURY, A. M., M. D., JACKSONVILLE.

In order to properly understand the diseases and injuries of the spinal cord and peripheral nerves, it is of the first importance that we have familiarity with the anatomico-physiological features of these special nerve structures. It is not necessary for me to enter into an extended anatomical description of the cord, but I would like to emphasize the importance of certain essentials which aid us when operative treatment is under consideration.

We must remember that irritation and conduction occur by means of the neuron, each one consisting of a nerve cell with its dendrites, of the nerve process (root process, neurite, axis cylinder) arising from the nerve cell and of the terminal splitting of the same (terminal arborization).

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

In order to insure performance of the functions of the neuron, there must be an intact condition of its anatomical structure. Irritation occurs in the neuron by traveling from the cell to the neurite and thence to the terminal arborization and there is transformed to other ganglionic cells, the fibres of which are in intimate contact with the terminal arborization by way of the dendrites of the ganglion cell.

The arrangement of the neurons in tracts serves to systematize these anatomical elements and in the study of their physiological function, diagnosis has been greatly advanced in recent years. The motor tract, the sensory tract, the reflex tracts, thus studied, have been compiled in tables and illustrated in diagrams, so that with their aid, localization diagnosis has been perfected to the extent of what we may now call it the science of localization. Of course, it has not reached an absolute, unalterable degree of perfection, for there yet remains much clinical and physiological investigation to establish the perfect science of localization. However, facts have accumulated regarding the localization of cord lesions sufficient to meet all surgical requirements. There are certain elementary facts which we must always remember and which even in their simplicity bear repetition, frequently. I allude to:

First.—The fact that the cord terminates opposite the second lumbar vertebra. Second.—That the spinal nerves do not leave the cord immediately in line with their origin, but extend downwards and have their exit through vertebræ sometimes remotely from their origin, this distance increasing as we descend the cord from the cervical vertebræ. The lumbar and sacral nerves in their formation of the cauda equina have quite a distance to go before having their exit through their foramina. Third.—That as the spinous processes are taken as guides in making incisions, it is necessary to remember that the spines of the vertebræ do not correspond to the level of the bodies, and that the relationship between nerve roots and spinous processes varies the entire length

of the spinal column; thus, at the cervical region, the nerve roots are almost opposite the cervical nerves, while in the dorsal region the spinous process of the sixth vertebra is opposite the ninth dorsal nerve root. Gowers' diagram is of help in understanding these facts. Fourth.—When root symptoms are being considered, it is necessary to remember that one root may give evidence of irritation in several different nerves and destruction of a root will cause atrophy of muscles to which these different nerves originating in this root are disturbed.

In considering disease of the peripheral nerves this fact is of importance, as there is a difference between peripheral nerve distribution and root distribution. (To facilitate in localization, in accordance with the above going statements, tables and diagrams have been prepared found in all standard textbooks showing accurately the root and peripheral distributions.)

Pathology.

The gross and special pathology of lesions of the cord cannot be discussed in their fullness, and we must, therefore, hastily review a few essentials which, when understood, are sufficient to meet the requirements as we are apt to meet them in surgical practice. It is also necessary to consider the surgical pathology of the vertebræ briefly, inasmuch as diseases of the vertebræ are responsible for the greater part of surgical interference where the cord is involved. Degenerations, usually secondary, are the most marked pathological changes in the cord. They follow after injury to the cord, from compression or from severance of fibres. In both conditions the fibres are cut off from their cell bodies and degeneration follows, from the point of injury to the peripheral termination of the fibre. For this reason a small lesion in the cord may cause extensive secondary nerve fibre degenerations. Below the lesion in the cord a descending degeneration occurs and is very extensive near the seat of injury. This degeneration involves other systems than the one immediately affected by the injury. Ascending degenerations too may follow injuries of the cord and may become very ex-

tensive. Secondary degenerations may follow compression of the cord by tumors of the vertebræ or of membranes of the cord, or from Pott's disease (tuberculous caries of both forms), or from fracture, dislocations or from hemorrhages in the neural canal or within the cord or from wounds of the cord, especially gun shot and stab wounds. The special pathology of degenerations from lesions of the cord has been exhaustively studied by Collier & Buzzard (*Brain*, Vol. 2:6—No. 104).

Occasionally certain malformations of the cord call for surgical interference and the pathology of these affections must be understood before undertaking operative measures for their relief. Spinal bifida is the one malformation which is strictly surgical in its treatment, and Dana says "and only in meningocele."

Syringomyelia, due to formation of gliomatous tissue in the cord becomes of surgical importance at times, and its surgical pathology under such conditions is briefly, the cavity in cord tissue is filled with a fluid which is causing undue pressure symptoms and Horsey says, "Temporary improvement in simple syringomyelia may be obtained by tapping the dilated cavity in the cord." I have seen but one case of syringomyelia and surgical interference was not necessary.

Of disease of the vertebræ which involve the cord, tuberculous caries is the most common. Tuberculosis of the bone usually follows slight contusions in susceptible individuals and the invasion of the bacilli is where the growth of the bone is greatest near the periosteum and intervertebral substance. The anterior surface just beneath the anterior longitudinal ligament, says Warren (*Surgical Pathology*), is a favorite seat. Here the vessels which run into the bone more or less perpendicularly to the surface are surrounded with granulation tissue, and the absorption of the bone is therefore greatest at these points. Less frequently, the center of the bone is affected. Two or more foci may exist in each body. The destruction of bone goes on until characteristic deformity

occurs and compression of the cord results. Horsey speaks of caries without deformity, and says in the lumbar region that it is perfectly possible for extensive tuberculous caries non-suppurative to occur producing the severest paraplegia, without the slightest deformity of the spine. The cervical region too seems to be exempt from deformity. I have seen one such case. New growths involving the vertebræ or the membrane of the cord may cause compressions of the cord. Sarcoma and carcinoma of the bodies of the vertebræ and sarcomatous growths arising in the tissues adjacent may invade the neural canal. I have seen five cases (two in males) of secondary carcinoma involving the cord or its roots by compression. All cases have been secondary to carcinoma of the breast.

Surgical Spinal Lesions.

The surgical spinal lesions are compression of the cord from injuries, from tumors, from caries, from hemorrhage and irritation of the roots of the spinal nerves from new growths, etc. To make a diagnosis, first, as to the nature of the lesion; and, second, as to its localization, is at times easy, while in other cases, as Cushing aptly expresses it, "There are no clinical puzzles more interesting to disentangle, none more confusing when left in a snarl, than those connected with the segmental localization of a cord lesion, the determination from disturbances of function of its transverse extent, a decision as to the recoverability of the injured tracts, and a knowledge of just where the intact arches of the spinal vertebræ must be entered in order to expose the diseased focus."

In order to solve these problems a complete neurological diagnosis is necessary, certain symptom groups being studied in routine order, viz.:—First,—Motor, as shown in paralysis in some form, varying from involvement of one muscular group of muscles to complete loss of power in one or more limbs. Motor irritations or excitations, as shown is spastic states, rigidity, contractures, spasms, etc. The differential study of paralysis or irritations cannot be considered here. The second group of symptoms, the sensory,

require great care in their differentiation and involve consideration of tactile sense, temperature, pain and muscle sense, etc., and the varied irritations of nerve roots and later destruction of these roots, etc., paraesthesia, neuralgic pains, ataxia and later anaesthesia, analgesia, thermoanesthesia, etc. In the study of sensory localization much patience and skill will be required to obtain satisfactory results, and as the symptoms are very important, it is necessary to get full notes and follow carefully a definite routine in examination. The diagrams of Sherrington, of Starr, will be of great aid in differential study. In the third important symptom group are considered the reflexes. The condition of the reflexes is an index of diseases of the cord. They are therefore to be given their true place in diagnosis.

Surgical Interference.

Of the indications for surgical interference I would say that in fractures, dislocations, etc., of the spine, the tendency of the times is to advocate early operation. Walton (*Journal of Nervous and Mental Diseases*, Jan., 1902), of Boston, one of the most practical of our eminent American neurologists, is an earnest advocate of early interference. He says: "That we have no symptoms from which we can assert at the outset that the cord is crushed beyond the possibility of a certain degree of repair, and that early operation in all doubtful cases will not only accomplish all that late operation will do for these cases, but it will be performed to better advantage before reparative processes with adhesion and callus have appeared. Total relaxed paralysis, anaesthesia of abrupt demarcation, total loss of reflexes, retention, priapism and tympanites, if persistent, Walton believes point to complete and incurable transverse lesion; but the onset of such symptoms does not preclude a certain degree, at least, of restoration of function. The prognosis without operation is grave but this is hardly a sufficient argument, as it is also grave with operation.

While the results of operation are not brilliant, he thinks they are sufficiently encouraging to warrant us in making the practice

more general, and in most cases it will be wise to operate within a few days of injury; but a delay of some hours is advisable, partly on account of shock and partly to eliminate the diagnosis of simple distortion. Instead of selecting the occasional case for operation, we should, he thinks, rather select the occasional case in which it is contraindicated (the patient with great displacement of the vertebrae, the patient with high and rising temperature, the patient plainly moribund, the patient still under profound shock). The dura should be opened freely; it need not be sutured; drainage is not necessary.

C. L. Dana, in discussing this paper, remarked that in his experience, operation is practically safe, and that the spinal column is not injured by the operation.

Cushing (*Cleveland Medical Journal*, January, 1905), in speaking of the indications for surgical intervention in cases of spinal traumatism, said: "For the sake of having some tangible and definite rule for conduct, I have always divided these cases into three categories. (1) Those in which an operation is contraindicated because it can do no good and may increase the damage already done. To this group belongs the traumatic hæmatomyelia, a not uncommon lesion, one easily recognized from its symptoms alone and without radiographic aid, and one which, up to a certain point, is recoverable by natural processes of repair. (2) Of these cases he had twelve. Cases of fracture-dislocation, which are relatively common, and which, so far as we know, are beyond all hope of restoration, owing to the complete transverse nature of the lesion. In these operation can do no harm, but it is an unjustifiable ordeal for both patient and operator. (3) Cases of partial injury to the cord with symptoms which are increased and perpetuated by pressure from a foreign body, such as a fragment of bone or a bullet, from a group in which an operation undoubtedly will do good, provided it is so conducted as not to aggravate, by further traumatism, the already existing symptoms. All of these conditions are commonly regarded as surgical, and I have mentioned

them for the sake of emphasizing certain limitations which should be recognized. Only in the long standing cases, therefore, which present undoubted evidences of transverse destruction, no matter whether the lesion in its transverse extent originally was or was not complete, is an operation to be considered utterly futile.

Regeneration of the Cord.

The possible regeneration of the cord after severance by accident is one of the new features in cord surgery, brought into prominence by the remarkable case of Stewart (Philadelphia Medical Journal, June 17, 1903), where by gun shot through the spinal cord, a complete transverse lesion occurred. By operation three hours after the accident the ends of the cord, which had been separated, were, with difficulty, united by sutures. Sixteen months later functions of the cord were restored to the extent that she was able to perform flexion of the toes, thighs, extend the toes and rotate the thighs; stand with support by a chair. The bowel and urinary function were performed with little inconvenience; menstruation was regular; sensations of touch, temperature, pain and position were present, but temperature sense was impaired. There was no reaction of degeneration; no trophic changes of skin or nails. This remarkable case has not been explained; it is one of the most unique and extraordinary experiences of surgery. It leaves open the question of physiological restoration of function and adds to the many unexplained experiences of neurological practice.

Peripheral Nerve Surgery.

The recent studies of nerve anastomosis have opened up a most promising field in neurological surgery. It is in this department of special surgery that extended experimental work is meeting with such favorable results. The work of Cushing, of Johns Hopkins Hospital; of Spiller and Frazier, of the University of Pennsylvania in this country; of Kilvington, of the University of Melbourne; of Manasse, of Munk's Laboratory of Berlin; of Kennedy in Glasgow, and other workers in France and Italy, has

proven the practicability and possibility of nerve anastomosis so that grafting of a paralyzed nerve upon an intact nerve will result in the return of function of the paralyzed nerve.

In order to better understand the principles underlying this practice, let me briefly state that according to the present stage of our knowledge, the various nerve fibres which run in a nerve trunk are grouped as follows: According to Kilvington (1) Motor nerves proceeding direct from the central nervous system as skeletal muscles. (2) Preganglionic fibres arising in the central nervous system and ending in nerve cells placed peripherally (sympathetic ganglion cells, mesenteric ganglion cells and those of the heart and salivary glands, etc.). (3) Post-ganglionic fibres arising in these peripheral ganglia and ending in smooth muscle and glandular tissue. (4) Afferent fibres arising in the peripheral sensory apparatus and proceeding to the central nervous system; with these must be classified for the present, the vasodilator nerves.

Now, it is a fact that in nerve crossing that all of these groups may be embodied in one nerve, but it is the motor fibres which are most in evidence in the experimental work. The experiments have been complete, and it would be an interesting and profitable twenty minutes to devote one paper before this society on this subject alone. I can only mention the latest publication along this line, the conclusions of the experiments of Kilvington (British Medical Journal, April 25, 1905), which are:

1. It is possible to functionate two opposing groups of muscles by a single nerve, which previously supplied one group only; or, to put it in another way, it is possible to innervate fairly completely, muscles with a much smaller number of motor horn cells than usually bring about this effect.

2. When the central end of one nerve is joined to the peripheral ends of two nerves there are many more fibres in the peripheral nerves than in the central nerves, so that the nerve fibres in the proximal trunk divide on going to the distal trunks.

3. In some cases at least some of the branches from one nerve fibre go to supply one set, and others the opposing set of muscles. This may prevent very delicate movement being restored.

4. After this form of suturing the arrangement of the nerve fasciculi in the peripheral nerves is considerably altered. Though these experiments are incomplete, as they have not been performed on the human subject, I think sufficient has been done to justify the clinical trial of the method. It seems it would be likely to impress some of those distressing cases of infantile paralysis for which so little can at present be done. It may be applicable, too, in some injuries with loss of some of the length of the nerves, tumors of nerves, etc. (I would say that Spiller and Frazier have anticipated Kilvington nearly two years in applying these facts in a successful case reported before the Philadelphia Neurological Society, and of which I will speak later.)

Cushing (*Annals of Surgery*, May, 1903) has reported favorable results in nerve anastomosis in facial paralysis, and in his report in commenting upon nerve anastomosis he says: "In this form a given nerve with normal central connections is completely divided and its peripheral distribution abandoned as being of comparative unimportance. The central end of this nerve is then brought in its entirety into connection with the peripheral end of the nerve considered of greater importance, but whose central connections have been destroyed. (The accessorius was abandoned and its central end joined to the peripheral end of the facial nerve.)" "On purely anatomical grounds; this operation is suited to those cases in which a lesion of the facial nerve has occurred proximal to the stylomastoid foramen; and, fortunately for operative repairs, it is in this interosseous portion of its course that the nerve is most susceptible to injury whether from disease or traumatism."

Cushing further says: "The length of time which may elapse after the reception of an injury to a motor nerve and still

allow of restoration of function through nerve anastomosis is necessarily uncertain and dependent entirely upon the condition in which the muscles have been kept by massage and electrical exercises. In case there has been complete atrophy of the muscles, so they no longer respond to galvanic stimulation, probably no hope can be entertained of their recovery. Consequently, should there be any doubt of the completeness and permanency of the lesion, as in the frequent paralysis following otitis media in children, or the severe types of Bell's palsy in the adult, the muscles should be kept in tone by daily galvanism for the number of months during which it may seem advisable to await a possible regeneration without operative intervention.

"In cases of undoubted destructive lesions, as in a case reported by Faure, and the writer's, the operation, of course, should be done at the earliest possible moment. The failure in the former case was undoubtedly largely due to the long interval, namely, eighteen months, which elapsed between the injury and the operation. An operation such as Bloodgood successfully performed in one instance by exposure and suture in the Fallopian canal of a nerve previously injured in a mastoid operation, would, except under most favorable circumstances, be difficult in the extreme, and the procedure would hardly be applicable for the cases in which anastomosis is proposed.

"As far as the nerve itself is concerned, a reasonable delay in the operation need alter in no respect the prognostic favorability of the case. Clinical experience as well as the researches of Howell, Bethe, Balance and others shows that there is some change, whether a true regeneration or not, which takes place in the peripheral portion of a divided nerve and puts it in a state of readiness most favorable for an early return of function after reunion by suture. It must be remembered, also, that cases of suture of individual nerves have resulted in return of function, though the operation has been done some years after the original injury.

"It is naturally of some interest to con-

sider in what way restoration of cortical control is brought about in transplantations of this kind. That undiminished strength and power of co-ordination will return to a group of muscles after section and suture of their controlling nerve is a common observation. It is inconceivable, however, that the divided ends of each individual nerve fibre should once more unite in the process of regeneration by perfect coaption. Supposedly each fibre is represented by a motor cell in the central nervous system so that it is presumable, under the readjustment of healing, that the individual cells make connection with new groups of muscle fibres. Under these circumstances there is on the part of the individual, during the slow period of motor return, an unconscious effort to co-ordinate the early movements, which by training leads to a perfect result."

"In case the nerve is grafted into an entirely different motor territory, the problem of functional restoration becomes much more complex, and the training of co-ordination would supposedly be correspondingly difficult. Return of well co-ordinated movement nevertheless seems experimentally to have been as rapid in cases of nerve anastomosis as in those of simple nerve division. Probably the age of the individual is a most important factor, and without doubt the younger the subject the more favorable is the prognosis after nerve anastomosis, especially in case muscles with such an elaborate co-ordinate action as those of facial expression are concerned. It is natural that especial difficulties would be encountered under such circumstances, owing to the complex emotional nature of facial movement."

Other peripheral nerves have been successfully crossed in surgical practice and one of the most interesting and instructive cases is that reported by Spiller and Young before the Philadelphia Neurological Society in February of 1903 (*Journal of Nervous and Mental Disease*, June, 1903). The case was one of anterior poliomyelitis of two years' standing, in which the anterior tibial muscle alone was paralyzed.

The operation having been decided upon,

the most important feature was the route to be selected. From a careful dissection personally made, Dr. Young decided that the lateral route was the better one, and accordingly an incision 10 cm. in length was made downward from the head of the tibia in the long axis of the leg. The incision included the skin and superficial fascia. The deep fascia was divided upon a groove director, exposing the peroneal nerve. The nerve was followed down, and by separating the peroneus longus muscle three divisions were found, (1) the fasciculus of the nerves supplying the upper part of the anterior tibial muscle, (2) the anterior tibial nerve, (3) the musculo-cutaneous nerve, these divisions corresponding to those found in the cadaver. It was decided to take the upper division, of which there were four or five fasciculi, and perforating the external division, the musculo-cutaneous, the former were united to the outer side of the latter by fine cat-gut sutures.

Great care was taken not to injure the musculo-cutaneous nerve any more than necessary, and the fasciculi of the nerves which supply the anterior tibial muscle at its upper part were pushed through the incision in the external musculo-cutaneous nerve without any attempt being made to separate the nerve fibres from the sheath. Small instruments were used, and the nerves were handled as little as possible.

The nerves which were anastomosed were divided as high up as possible, so that there would be no tension upon them. The deep fascia was not closed with sutures. The skin was united by interrupted sutures. Over the antiseptic dressing a plaster of paris cast was applied to insure fixation of the limb.

It was my pleasure to see this case in Dr. Spiller's clinic last May, at which time improvement was decided, the child could walk almost in a normal manner and muscular power was good. This case suggests the possibility of other anastomoses being performed, and especially should we emphasize it as a promising operation in these unfortunate cases of anterior poliomyelitis where one muscle or group of muscles alone is involved.

Nerve anastomosis and transplantation is being advocated by Spiller and Frazier in cases of cerebral palsy. In an address (before the New York Neurological Society, and reported in the *Journal of Nervous and Mental Disease*, May, 1905) Spiller said: "The views here expressed are original with the authors, and if experience proves they are fallacious, they may nevertheless afford some suggestions for further investigations." The question he prompted was, "Is it possible by surgical means to benefit in any way the patient afflicted with an incomplete hemiplegia?"

It is beyond the most sanguine hope to give relief by surgical means in complete or almost complete hemiplegia, but Spiller's hope is based on the cases where partial return of power is in evidence. It is the experience of observers that usually the restoration of motion in hemiplegia is greater in the flexors in the upper limb and greater in the extensors in the lower limb, except those of the toes. An operation on the upper limb is not advised, because the flexors of the fingers are more useful than the extensors. In some cases, however, this feature is of little value unless there is at least partial return of power in the antagonistic muscles, although this return need not be so great in the extensors as in the flexors. Spiller is inclined to believe that in a case where the flexors alone regain power we might anastomose the central ends of some of the least important of the flexor nerves with peripheral ends of the extensor nerves, and in this way restore more nearly the normal relation between the flexor and extensor muscles.

We know from the experiments extending as far back to the work of Fleurens in 1824 that nerve crossing is both feasible and possible, and that even though the disused nerve may have been out of service for years, that regeneration of the united ends will occur when these nerves have not lost their connection with the spinal cells.

Another question propounded by Spiller is: Would impulses pass from the brain over the

central motor tracts to the anastomosed fibres in such a way that useful return of function might be expected? His answer is, that such a restoration in part would at least occur. He says: "It is true that movements and not muscles are represented in the brain cortex, but it has been demonstrated that when the lesion is in the peripheral nerves and anastomosis of nerves has been performed, a new form of associated movements may be learned by the brain. In this association there must be some equilibrium established between extensor and flexor muscles, in order to have return of power.

This work of Spiller and Frazier seeks to give aid in certain selected cases of cerebral hemiplegia, and it is in the field of the cerebral palsies of childhood where the most good is expected, also some possible relief in athetosis. This new possibility of neurological surgery commends itself in the cerebral palsies, but the selection of cases will demand careful oversight.

It was my pleasure to study under Osler and Wilmarth some years ago a series of cases (thirty-six) of cerebral palsies, all of which are reported in Osler's Monograph on this subject, and judging from the pathological findings in those cases, the number of children amenable to surgical treatment will necessarily be limited because of the unequal destruction of motor power and thereby lessened possibility of establishing balance between flexion and extension of muscles.

Discussion.

Dr. J. Brown Loring, Chicago: In reference to the paper of Dr. Patrick, I would like to ask the question as to whether tabes ever gives any indications of the eye pointing towards the tumor on the side referred to.

Some few years ago I was consulted by a man who had paralysis of accommodation and of the pupil. This was the only paralytic condition present. He came to me on account of severe occipital headaches, which were much worse at night, but not constant. They were somewhat intermittent, very severe, and his accommodation had been paralyzed for ten years. He had some difficulty with vision; he consulted an oculist, who prescribed atropine, and the patient attributed the paralysis of accommodation to the use of the atropine. He never recovered his accommodation after its use. That, I think, was an error on the part

of the patient. His vision was slightly reduced; when he came to me it was 6/9; there was contraction of the fields of vision, not markedly, but slightly. On two occasions in my office there was contraction of one of the internal recti muscles so as to cross the eye, making an internal strabismus. My reason for asking the question is this: The patient consulted a well-known neurologist subsequently, who made a diagnosis of neoplasm of the brain. The man is now the subject of well-marked tabes and of beginning general paresis.

One further point in reference to the case and the difficulty in making a diagnosis was that he had suffered from a suppurative inflammation of the middle ear in early childhood. The drum was still open; and consequently one would be interested to know whether the middle ear trouble had not been causing this difficulty. I suspected tabes was at the base of it, and so informed the patient; but was severely censured by the neurologist. I was not exactly censured either, but the patient was told that Dr. Loring must have known what the difficulty with him was, and he was surprised that I did not so state. We are sometimes surprised to know of the things we do not know.

Dr. M. L. Harris, Chicago: I wish to say a few words in favor of more frequent operations on injuries to the peripheral nerves. Even months or years after a peripheral nerve has been divided we may get considerable restoration of function by means of nerve grafting. Three months ago I operated on the ulnar nerve, grafting the injured ulnar nerve into the median. The ulnar nerve had been injured for two years previous to the operation. There was a complete atrophy of the muscles supplied by the ulnar nerve, and I found the distal portion of the ulnar nerve and grafted it into the median high up in the arm; the injury was just at the lower border of the axis; I cut a slit in the median and transplanted the end of the ulnar into the median. It is now three months since the operation was done, but already marked improvement has taken place. Electrical reaction has been restored, with considerable voluntary muscular action, and sensation has returned almost completely.

About six weeks ago I did the same operation, transplanted the ulnar nerve into the median for an injury to the ulnar nerve in the axilla produced by a dislocation of the shoulder joint. There was the same characteristic atrophy and position of the hand in this case. There is no marked improvement in this case as yet; we would not expect it so soon, as restoration of function sometimes takes several months, and we cannot expect a great amount of improvement short of six months to a year; but the remarkable improvement that has taken place in three months in the other case two years after the injury shows that there is much to be hoped for by this method of anastomosis.

Dr. Jacob Frank, Chicago: I would like to speak on the surgery of the brain and confine my remarks solely to that.

We have been given a method of diagnosis of localization of brain tumors; and we know that we have made great advances in the localization of brain lesions; but the neurologists still cannot tell us beforehand whether we have to deal with an encapsulated lesion or a diffuse lesion that is very urgent before an operation or not. Let us suppose that the diagnosis has been made, and the case has been turned over to a surgeon for operation. It is an easy matter to open the skull, and if it is a dural or a cortical lesion, it is easy enough to locate and remove. But if the lesion is subcortical, a different question confronts us. What I wish to bring out is this, that we can benefit a patient only in a certain way by brain surgery, and this point I brought out in 1887, when I presented before the Chicago Surgical Society a large series of cases of surgical work on the brain, and my conclusions were these: Surgery of the brain is a success; the brain can be explored, not like my friend Dr. Patrick says by incising brain tissue, as I would consider that bad practice, but by or with the finger, or with the end of a spoon, pushing aside the tissue and exploring the sulci. In that manner we do not get much hemorrhage.

Take, for instance, a case of Jacksonian epilepsy, where the patient has rigidity of one side of the body, with severe pains; we remove the foci that caused those symptoms, but is the patient well? Is the post-operative result what we would like it to be? Do we get a post-operative result the same as we do when we perform a laparotomy and remove an ovarian or fibroid tumor? We do not. All we can do for the patient is to relieve the paralysis probably for a while, or subdue the pains for a time; but he is still not in a position to earn his livelihood. Practically he is left incompetent with pain and paralysis. Therefore, we have a great deal more to learn about brain surgery than we at present know. I do not think brain surgery will ever become a fad like other operations, unless the growths are benign and are not subcortical. If the neoplasm lies on the dura, or if it originates from a bone, we can expect better results. I think the same rule holds good for spinal surgery, with the exception of the traumatic cases. In traumatic cases I am in favor of cutting down and removing the cause; but for malignant tumors and growths in the spinal cord, I think the indications for operating will be the same as for cortical lesions of the brain.

Dr. Emerson M. Sutton, Peoria: It is unfortunate that the paper of Dr. Patrick was subjected to a time limit, for the reason that there has not been enough said in regard to the symptoms. We have to differentiate meningitis from other cerebral conditions; we have choked disc associated with some cases of meningitis.

An experience I had recently warned me against opening the skull for a supposed tumor of the brain, or where the symptoms of brain tumor are present, and the diagnosis is uncertain from a lack of the focal symptoms. Even

in the presence of some of the focal symptoms the doctor spoke of, the location of the tumor, subdural or deep, it is almost an utter impossibility to tell whether one should operate or not, and unless the focal symptoms are well marked, I believe it is absolute folly to open the calvarium for a tumor and to undertake an extensive search in any direction. In a recent experience, where everything was done to arrive at a correct diagnosis, there was no paralysis except blindness, choked disc, atrophy of the optic nerve and the patient had most intense headaches. The patient was a child, seven years of age. When the calvarium was opened, incidentally there occurred hernia of the brain from the intracranial pressure. There was no tumor present, but the ventricles were filled with a cerebro-spinal fluid. The patient lived for six or eight weeks and then died. The diagnosis was basilar meningitis, and the autopsy verified it. That case might have been treated better by spinal puncture. On account of the severe headache, the choked disc, etc., we were led into error.

There is another thing which may be confounded with the class of cases under discussion, and that is syphilis of the brain, particularly in those cases with severe headaches and signs of tumor. Syphilitic affections of the brain must be carefully eliminated by a most rigorous antisyphilitic treatment. I recently had a case of these periodical headaches, with the focal symptoms of pain over the superior maxillary bones, with the sensory symptoms alluded to by Dr. Patrick. The patient had a temperature of 102° , with these headaches. He had decreased rapidly in weight, and was fast becoming exhausted. Although there was an absence of a history of syphilis, the use of proto-iodide of mercury in a few days cleared up the headache that had bothered a number of physicians who had previously seen the patient. The first physician treated the patient for brain fever; but three or four months before this the family physician noted an eruption on the boy's body. The boy was innocent, and did not think it was possible he had had syphilis.

In regard to epilepsy, I am firmly convinced that we can do more for that disease than we have been led to believe by our textbooks, if operation is undertaken sufficiently early. In the case of a laborer, who was struck on the head with a brick, in Peoria, some months afterwards he was rendered absolutely incapacitated by daily seizures of the Jacksonian type, beginning, as Dr. Patrick has demonstrated to us, in the fingers and extending over the body. A clinic tumor, with a wall as thin as a spider web, was located, and in the center of that were the remains of an old clot, dislocated in the fissure of Rolando. This was carefully removed, the patient recovered, and had no further symptoms of any kind. In June it will have been three years since the operation was performed, so that this is a proper procedure where we have definite focal symptoms.

Dr. Edwin W. Ryerson, Chicago: I want to

say a word or two in regard to infantile paralysis. This trouble, after the initial period has gone by, is not affected by internal treatment. Brace treatment of itself is unsatisfactory. Tendon transplantation has not given the satisfaction we had originally hoped for, except in those cases in which one or two of the muscles are affected, and it seems to me that we have a great deal to hope for from nerve transplantation. If nerve transplantation be done by a particular technique, it does no harm. It may do good. The technique I refer to consists in splitting the good nerve and inserting the peripheral end of the paralyzed nerve, after it has been trimmed off, into the slit. The method of cutting off a good nerve and uniting it to the peripheral end of the paralyzed nerve is to be condemned, provided the muscles which are supplied by the nerve are of no use. It entirely cuts off the function of any muscles which are supplied by it, and there are few legs which can stand any muscular supply that is cut off. I feel that the splitting method and the insertion of the peripheral end of the paralyzed nerve into the slit should be tried primarily, say a year from the beginning of the disease. It can be done no harm, and as an initial measure may do good, and can be followed by tendon transplantation, and have no effect upon the brace treatment.

Dr. Patrick (closing the discussion on his part): In regard to Dr. Loring's question, there is no similarity between the symptoms of tabes and those of brain tumor. I cannot conceive how an error could arise, as the symptoms are not similar. Either the tumor occurred after Dr. Loring saw the case, or what was likely, the patient had syphilis years ago, which affected accommodation, and in consequence of the earlier syphilitic infection he developed paralysis.

As to the remarks of Dr. Frank, there is practically no difference of opinion between us. We have talked over this subject a number of times. Regarding the matter of technique, to which Dr. Frank alluded, I spoke of freely incising the brain tissue, as that was the quickest thing to say, but whether the opening ought to be made with the scalpel, with the handle of a spoon, I would not attempt to decide. I have seen Sir Victor Horsley make not only a free incision with a sharp knife, but a T incision as well. But that is a question for Horsley and Frank to thresh out.

The prognosis of operations on the brain does not come within my domain; but I would like to repeat what I said before in a little different form, that the longer one waits for the whole symptom-complex of tumor of the brain, the worse the results. The more closely and accurately a study of the symptoms is made, the more definite the localization, and particularly the earlier the diagnosis is made, the better the result.

As to the fact that there are very few eminently successful operations for brain tumor, nobody disputes it. But the percentage is very

low indeed. Cases do occur now and then where brain tumor does not get well spontaneously, although they get to a standstill after optic atrophy supervenes, and the patient goes on for years in a relatively comfortable condition.

Dr. Sutton, in his remarks, opened up the question of diagnosis. The questions of diagnosis are simply innumerable, because we have to consider syphilis, meningitis, hydrocephalus, etc. Opening up the brain and exploring it for tumor is no more justifiable than any thoughtless, foolish operation in surgery. But there is a palliative operation which relieves the intense pain, blindness coming on, sometimes extreme vomiting, and that is by opening up a large flap to relieve tension which thus relieves the patient to a considerable extent. But this is a question for the patient or his friends to decide with the surgeon. However, it is sometimes not only a justifiable, but, laudable operation.

Dr. Norbury (closing the discussion): I have but a few words to say. Regarding anterior poliomyelitis, I report in that part of my paper unread, a case reported by Spiller and Young, operated in 1902 (reported in 1903) where nerve anastomosis was successful. I saw the patient last year in Spiller's clinic. Another case reported by Spiller and Frazier and was not as successful. The results of operation, however, are certainly encouraging and bespeak, for selected cases, a promising field for neurological surgery. Spiller and Frazier are also doing work, as yet more or less experimental, in cases of cerebral palsies; their reports before the New York Neurological Society show possible opportunities to do work in this line of inquiry. They are conducting studies in the Pennsylvania Institution for Feeble-Minded Children, and I know, from my own experience while Resident Physician there, that the field for work is good and promising results may be expected from these indefatigable and earnest workers. In my own experience in the pathological studies of cerebral palsies, it was my pleasure to see and study thirty-six cases in the Pennsylvania Institution, under Drs. Osler and Wilmarth, and it is to be remarked that these cases show such varied and destructive lesions that great care must be exercised in selecting cases for the operation proposed by Spiller and Frazier.

SOME CASES DEMANDING REMOVAL OF THE EYE OF INTEREST TO PHYSICIAN AND SURGEON.*

BY J. BROWN LORING, M. D., CHICAGO.

In this age of acute specialization, for an ophthalmologist to be invited to present a paper before the Surgical Division of a State Medical Society, might well cause him to pause; to have coupled with that invi-

tation the injunction that it must be of equal interest to the surgeon and ophthalmologist, is double cause for hesitation. All diseases and condition of the eye are of vital interest to the ophthalmologist, and on him, in some cases at least, rests the entire responsibility; in others it is equally shared with the physician and surgeon; but frequently the responsibility rests more heavily upon the general surgeon or physician. It goes without saying that an eye that has lost its sight is deprived of its chief function, if, in addition, it has lost its comeliness, it is useless; if it is also harmless and will remain so, or will give plain indications of approaching danger, a sufficient length of time in advance to allow for proper action, it may be left alone or removed at the discretion of the patient. Obviously, interference is demanded, under precisely the same conditions that the surgeon uses elsewhere, namely, for the preservation of life, for the preservation of function by preventing the extension of the disease, for the improvement of the general health and for cosmetic purposes. Difference of opinion, on seemingly positive cases, entailing loss of valuable time and thereby jeopardizing the outcome, leads me to present this subject, which can not be better illustrated than by the citation of cases.

Case 1. Mrs. N. S., age 52, consulted me November 7, 1904, saying "she could not see well in her right eye." There was an enlargement about 2 mm. broad at the base of the iris on the nasal side, circumscribed, elevated, very vascular and apparently extending to the conjunctival surface at the limbus where there was a slight distinctly circumscribed redness. Her vision, however, was 6-15 in each eye, the same as when I completed her refraction for high myopia July 21, 1904. The appearance of the growth suggested sarcoma, and although there was no evidence of syphilis or tuberculosis, she was placed on anti-syphilitic treatment, which afforded no relief. The growth rapidly increased in size and vascularity. The pupillary margin of the iris became retracted toward the growth, with

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

eversion of the pigment layer. Extension of the swelling could be seen by oblique illumination, from the posterior surface of the iris. There were opacities in the vitreous and lens. A diagnosis of sarcoma was made and enucleation advised and after some weeks consented to. For the pathological findings in this and the following cases I am indebted to Dr. E. V. L. Brown, pathologist to the Illinois Charitable Eye and Ear Infirmary, Chicago. Examination of the enucleated eye revealed a milky white mass in the anterior chamber occupying the nasal portion of the iris.

Microscopical examination showed cornea slightly thin; the ciliary bodies and choroid are for the most part normal. The retina is detached and slightly atrophic, and shows some increase in the width of the nerve fiber layer. Under low power, extra pupillary sections show the peripheral half of the iris to be the seat of a vascular non-pigmented tumor which is nearly triple the width of the iris in the antero-posterior plane, and has invaded the anterior third of the ciliary body. The spindle cells are densely packed in alveoli, and seem to have originated from the anterior limiting endothelium of the iris. This structure is increased, from its normal breadth of a single cell, to a broad heavily staining band some 15 to 20 cells in width, thus almost equaling the width of a normal iris. The tumor cells have broken through the posterior pigment layer at the root of the iris, and invaded the posterior chamber. The adjacent venous sinus is completely obliterated as well as its ligamentum pectinatum.

Anatomical diagnosis: Small spindle-celled leuco-sarcoma of the iris originating in the anterior limiting endothelium, and invading the ciliary body and ligamentum pectinatum.

Case 2. Woman, age 41, fair general health, came to me May 18, 1904, complaining of blindness and severe pain in the left eye, of one week's duration, rapidly becoming worse; cornea slightly steamy with some anesthesia, marked peri-corneal injection and episcleral vessels engorged, anterior

chamber shallow, pupil dilated and slightly irregular, but no adhesions; iris pigment showing around the whole pupil margin. T.+2, vision equal shadows, no red reflex, vision right equal 6/8—2. She gave a history of a similar attack occurring some time previous, from which she recovered without treatment. Dionin, eserine, salicylate of soda and mercury failing to make any perceptible change, other than contracting the pupil, a diagnosis of probable intra-ocular tumor was made and enucleation advised. The patient left me and sought the advice of a well-known oculist, who disagreed from me, and thought enucleation unnecessary. The eye was finally removed by Dr. Wm. H. Wilder, to whom I am indebted for the privilege of completing this report. Microscopical examination shows the anterior chamber filled with an organized blood clot, and the sinus angles closed by the iris root, atrophy of the iris to one-third of its normal width, with great rarefaction of the stroma and ectropia of the pigmented layer. The vitreous is organized and reduced to a small retro-lental organized mass; the ciliary bodies are markedly atrophic; the choroid is the seat of an oval-formed tumor mass originating in its middle layers, and extending from the disc to the equator. The neoplasm is highly vascular and markedly pigmented; the cells are arranged in groups and bands and alveoli of small, heavily staining, closely packed, spindle cells growing from the adventitia of young vessels; the retina is detached and pulled together into a central strand; the optic nerve is atrophic.

Anatomical diagnosis: Sessile melanotic small spindle celled hemangio-sarcoma of the choroid; atrophy of the anterior uvea, retina and optic nerve.

Case 3. Mrs. L. W., age 45, was referred by her family physician on account of defective vision in her right eye, to an optician, who gave her a pair of glasses, notwithstanding they did not improve the sight of that eye. These were worn for about three months, when becoming dissatisfied, she applied for treatment in October, 1904.

Examination revealed the eye normal externally. The vision was zero in the lower field and nearly so above, T.N. The ophthalmoscope showed a detached retina above, and partly to the nasal side, which had a very baggy appearance, floating about as though hanging from a pedicle. There was no increased vascularity, otherwise the fundus was normal. Left eye normal. The case was examined by Dr. E. K. Findlay, and the probability of a growth was discussed. Family affairs detained her, and it was not until January 16, 1905, that she again came to the office, the eye having been red and painful for two days. There was much ciliary injection and the episcleral vessels enlarged; anterior chamber very shallow, pupil dilated, slight eversion of the pigment layer of the iris; vision, bare perception of light. Tension plus 2; only the slightest indication of red reflex, and the fundus could not be seen. Enucleation was advised and consented to, and the eye removed two days later. On opening the excised eye the vitreous cavity was found to be one-half by two-thirds filled by a large brownish mass springing from the choroid.

Microscopical study shows the anterior chamber entirely obliterated; this iris is everywhere adherent to the lens capsule which, with the lens, has been pulled forward to within one-tenth mm. of the cornea. The ciliary bodies are reduced to one-half of their normal size. The processes are matted together and very atrophic. The choroid shows an oval, heavily staining, highly vascular pendunculated tumor mass springing from near the disc; the cells are densely packed in trains and bands, about the vessels; the retina is completely detached.

Anatomical diagnosis: Spindle-cell angioleuco-sarcoma of the choroid; glaucoma secundaria; complete atrophy of the uvea and retina.

Case 4. A girl, 12 years of age, was brought to the clinic of the College of Physicians and Surgeons, by Dr. Wilkinson, to whom I am indebted for the opportunity of obtaining the history. Drs. John E. Harper and E. K. Findlay with myself found the

left eye was noticeably larger than its fellow, the sclera bulging in several points above, the pupil was widely dilated and irregular, the anterior chamber entirely obliterated, the lens slightly smoky, and the vitreous filled with a white mass, over which, by oblique illumination, the vessels could be seen coursing. The tension was plus 1. The eye had a nodular feel and was blind. The right eye was normal. A diagnosis of glioma of the retina was made, and immediate removal advised.

History: About November 1, 1903, while in the country, there was an attack of pain and redness in the eye, for which a doctor gave her some drops. On returning to Chicago, she was vaccinated, from the effects of which she became very ill, suffering most of the time with pain in the eye, for which the doctor prescribed drops, having found the eye blind. On November 20 she was taken to a charitable institution, on the records of which is the following: "Left eye. Cornea hazy, disc cupped, tension plus 2, vision equals fingers at one foot. Vision in right, 20/30. Diagnosis, primary glaucoma, left." Three oculists examined her, and "advised operation at once, which the mother declined." Two days later she was taken to an oculist, of considerable reputation, who evidently accepted the diagnosis of glaucoma. She remained under his care, visiting him frequently. At the end of three months of great suffering the eye was noticed to be enlarging, and the pain gradually subsiding; and in May it was thought the disease was under control, although the eye was larger than its fellow and the pupil dilated. Notwithstanding its enlargement, it was not until seven months later that something was discovered in the eye. Consultation was held with another oculist, and an operation was spoken of as possibly being necessary at some time. It was two or three weeks later that she was brought to the college and received our diagnosis. The eye was removed four days later by her oculist. On section, the eye was found filled with a tumor, of cauliflower-like appearance, the microscopical diagnosis of which I am unable to give. Five months

later there has been no recurrence of the growth.

Case 5. M. M., a rather dense Polish laborer, aged 50, presented himself at the clinic of the Illinois Charitable Eye and Ear Infirmary, April 30, 1904, complaining of failing vision of two weeks' duration in his right eye, the sight of the left having been lost. Examination revealed in the right photophobia, lachrymation, a small but distinct rosy peri-corneal zone, and considerable conjunctival injection. The iris was slightly dull, its reaction to light barely noticeable, tension normal, and vision equalled 20/200, marked hyperemia of the fundus, and some fine cloudiness in the vitreous. He had suffered no pain. Atropine was instilled several times, but produced no appreciable dilation after more than an hour had elapsed. The left eye was deformed and shrunken, red and tender, though not painful. The sight was destroyed 20 years previous, as the result of an injury, with inflammation following, of some weeks' duration, the eye finally becoming quiescent and remaining so until three months before he applied for treatment, when he was struck in the blind eye with a piece of wood. Sympathetic iritis was recognized and immediate removal of the offending useless globe advised. Wishing to consult his family, this was delayed 20 hours. He was placed under active treatment, atropine, oil of wintergreen and mercury. Two days later the pupil was only partly dilated and irregular, the vision having improved to 20/40; after four days, the vision was 20/20 minus 2, but a small exudate was noticed at the pupil margin. In another four days growing restless under treatment, especially the subconjunctival injection, he left the hospital, the left eye, however, being healed. Three weeks later he returned, having received treatment at a homeopathic dispensary. The vision was again reduced to 20/200, pupil only partly dilated, irregular, with increased exudate. The vitreous was cloudy and the retinal vessels blurred. He declined to remain in the hospital, so was given salicylate of soda, grains 15, mild chloride grains 1-8

every three hours, and atropine and was told that, unless he wished to enter the hospital, he need not return. He chose not to return.

Anatomical diagnosis of sectioned eye: Healed corneal wound with iris root incarcerated, iritis, cyclitis, choroiditis, with choroidal hemorrhage, vitreous hemorrhage and detached retina. As the general opinion was that he would become blind, and being interested in the outcome, I made a trip to his modest suburban home May 7, 1905, where, contrary to all expectations, I found a happy man, looking over his few acres devoted to market gardening. He told me that he had faithfully used the medicine and steadily improved; that after two months or more a neighboring druggist had selected a single artificial eye from the city, which for color and fit one rarely sees excelled. This has been worn constantly without removal. There was no sign of irritation in the socket or in his remaining eye, and he was able to read fine print. He assured me that he never felt better than since his eye had been removed. Verily one of our best assistants is *Vis Medicatrix Naturæ*.

Case 6. A brief synopsis of a case of sympathetic inflammation following gonorrheal conjunctivitis, reported by Dr. H. W. Woodruff, in the *Ophthalmic Record*, July, 1904. Mary Q., age 11, admitted to the hospital October 19, 1903, with purulent conjunctivitis of the right eye, of three days' duration, due to gonococci. Three days later the left eye became slightly involved. After another nine days' perforation of the cornea, in the right occurred, with prolapse of the iris, which was excised. She was discharged November 24, 1903, and told to attend the out clinic. There was a slight conjunctival discharge, containing no gonococci. The vision in the right eye was 5/120, in the left 20/20. The poor vision in the right was due to the adherent corneal cicatrix and a cloudy lens.

"There was no other symptom at this time that would lead one to suspect a uveal in-

volvement. She was under the care of Dr. Tivnen in the dispensary from November 24, 1903, to December 16, 1903, when the doctor referred her back to the hospital, with the following statement: He had made an application of nitrate of silver to the conjunctiva of the left eye, from which there was still some discharge. This resulted in some pain, which the doctor relieved by the instillation of a few drops of a 4 per cent solution of cocaine, instructing the girl to wait until the pain was relieved. After some length of time the doctor examined the eyes again and found that the pupil in the left eye was irregularly dilated, and, suspecting sympathetic disease, he referred the case to me. The length of time between the perforation of the corneal ulcer in the right eye and the discovery of sympathetic uveitis in the left was six weeks. Examination on the date of her second admission to the hospital showed the following conditions: With the right eye she could count fingers at two feet by artificial light. The lens was opaque, and the iris adherent to the corneal opacity. There was no external symptom of ciliary involvement; no pain nor tenderness. The vision in the left was 20/60. The pupil irregularly dilated. There was present the characteristic punctate deposits on the lower part of the cornea in Descemet's membrane. Ophthalmoscopic examination did not reveal any change in the fundus." The right eye was enucleated December 25, 1903. On May 10, 1904, the condition was as follows: "Vision equalled 8/120. The pupillary margin of the iris is adherent to the lens. The central portion of the lens is clear, so that a considerable reflex is obtainable with the mirror. The anterior chamber is shallow, owing to the ciliary margin of the iris being pushed forward. The tension is elevated, and has been elevated for a considerable time, although there are periods of time when the tension is more nearly normal." Dr. Brown, the pathologist, reported fibrinoplastic uveitis in the enucleated eye.

Case 7. P. H., age 11, consulted me October 20, 1903, complaining of fatigue of the eyes after near work, some blurring and

frequently pain over the left brow, with a tendency to redness for several days. The sight of the right eye was lost when one week old, from inflammation. Examination revealed the right eye deformed and slightly smaller than its fellow, a dense leucoma of almost the entire cornea which was irregular and nodular with many vessels extending into it. It was slightly tender and he had suffered from occasional twinges of pain. In the left, there was a small pink pericorneal zone with considerable conjunctival injection, photophobia and lachrymation. The pupil acted freely. The vision equalled 6/9. There was a slight lateral nystagmus in each eye. There was hyperemia of the fundus, but not more than one frequently observes in refractive errors. He had hypermetropic astigmatism. He had always been a delicate boy, and a poor sleeper, awaking at from 4 to 5 o'clock each morning and was then a general disturber of the household. Under atropine and salicylates for one week all irritation subsided, a plus 1. D. cylinder, axis 90, gave 6/6 of vision. Thinking the refractive error might be the cause of the whole trouble, the correction was given him for constant wear. No further difficulty, other than an occasional attack of pain, for a short while, in the right eye, occurred, for a period of four months, when there was a recurrence of the trouble in the left eye, which, as well as two subsequent attacks, were promptly arrested by the same treatment. The parents finally consented to excision, which was done early in April, since which time the boy sleeps soundly the whole night. Examination of the sectioned eye showed plastic iridocyclitis, absence of the lens, and complete adhesion of the iris to the cornea.

Case 8. R. H., age 22, 5 years previous had a wound involving the ciliary body of the right eye, resulting in iridocyclitis, with considerable exudate in the pupil, producing firm adhesions, and reducing the vision to 3/200. He was told that it might cause trouble and advised to see an oculist at once, should there be any pain or irritation in either eye. The first indication of approach-

ing danger came while on a hunting trip, when he noticed difficulty in sighting. He started at once for home; the sight became rapidly worse; did not improve with treatment. That eye is blind and he has barely the 3/200 of vision in the injured eye.

Case 9. Ella G., age 18, came to me March 7, 1904, on account of loss of vision in the right eye. Examination showed it to be blind, excessively tender in the ciliary region, with but slight injection, the tension was minus 1, complete adhesion of the iris to the anterior capsule of the lens which was pushed forward almost obliterating the anterior chamber, except at the peripheral portion, where the iris was retracted. No red reflex could be obtained and the greater portion of the vitreous cavity was filled with a dirty grayish white mass seen on oblique illumination. History: Nine weeks previous had typhoid fever, during the second week the eye became red and painful, the pain extending to the temple. This condition persisted for about four weeks, notwithstanding she was given drops by her attending physician, when it gradually abated. The physician promised to bring a specialist to see her eye, but afterwards changed his mind, telling her "that the eye would come out all right." Despite treatment, the eye remained tender and irritable and removal was advised, but not accepted. Slight exacerbations occurred at intervals, and in March, 1905, a particularly severe one, when she was treated by Dr. E. K. Findlay. Shortly after coming under my care, at the beginning of April, the left eye showed signs of irritation, with vision slightly reduced. She finally consented to have the offending member removed, which was done and the irritation subsided. The removed eye was the seat of a plastic uveitis resulting in phthisis bulbi.

In these tumor cases, all will agree that the safety of life is in direct ratio to early diagnosis and removal. Yet some of them were needlessly delayed, though the indications in all were positive. It is too early to predict the outcome. On two of them the

X-ray is being used. Case 3 illustrates the evil that may result from referring patients with loss of vision, to opticians for the fitting of glasses. Glasses are a therapeutic means to an end. In order to secure success it is necessary that a proper diagnosis be made, of which, it is obvious the optician is incapable. The importance of this, to the physician, can not be more forcibly stated than in the words of Patterson in his address delivered before the Academy of Jefferson Medical College, April 14, 1905, on the Law and the Doctor. "The consultant, the specialist, the nurse and the druggist are all 'independent contractors,' and each held liable for his own negligence, and the doctor is not held liable for the negligence of any of them, unless it be shown that, if selected by him, he has been negligent in their selection; or, in other words, that the individual selected is so generally known to be incompetent that a person of reasonable carefulness would not have selected him or her." The other cases lead us into quite a different domain, that of eyes blind, or partially blind, the result of plastic iridocyclitis due to injury or disease, exciting a similar disease in the other eye, which in most cases, when once established, results in blindness. Classically, two varieties of this disease are described, sympathetic irritation and sympathetic inflammation. A careful perusal of literature fails to find an author willing to state where the condition of irritation ends and the preliminary stage of inflammation begins. All the symptoms of the former may or may not be present in the latter. Both varieties are excited by similar conditions. In society proceedings it is noticed that most ophthalmologists agree that such blind eyes should be removed. Some, however, are willing to wait and watch, for specific indications, consoling themselves with the statement that such an eye is better than an artificial one and that sympathetic disease is rare; although statistics show that about one in 20 of such cases develops sympathetic inflammation. Among the leading text books, of recent date, one notes the following: "In eyes blind as the

result of destructive inflammation some time previous and which are quiet in every respect, the patient should be warned of the probability of sympathetic inflammation and instructed to seek skilled aid at the first symptom of irritation in either eye." In another: "As long as a sightless eye containing a foreign body is free from inflammation, causes no irritation to the other eye, and the patient remains under observation, enucleation may be postponed." Still a third: "An eye the vision of which has been destroyed by plastic iridocyclitis, or one which has atrophied or shrunk, provided there are tenderness on pressure in the ciliary region, and attacks of recurring irritation; or without waiting for signs of irritation, should be removed." That such instruction amounts to the doctrine of "laissez faire" is proven by these cases. One watched and waited 20 years, to the detriment of his health, and luckily recovered from the attack; the child was watched for 11 years, his general condition suffering, when finally only irritation, or the preliminary stage of inflammation, manifested itself. Another watched for five years, and is now blind, save for the 3/200 of vision in the injured eye. Lastly, and more important, is the case of the child who, though under the observation and treatment of a competent ophthalmologist, developed the insidious disease and is now nearly blind. It is to be noted that all these cases were painless. Is it not time that such instruction be eliminated from our text books, and the straightforward advice given that all such eyes be removed? The removal of an eye, in children is objected to on account of the supposed partial arrest of the development of the orbit and the consequent increase in the deformity. Observation and measurements show such not to be the case. At birth the weight of the two eyes, as compared to that of the body, is as 1 to 419; while that of the adult is as 1 to 4832; the body increasing 21-fold, the eye 1.8, and with the brain and ear, attaining its structure and proportions much earlier than the remainder of the body. The eyeball occupies about one-fifth of the cavity

of the orbit. According to Merkel, the size of the base of the orbit, at 5 years of age, is only 2 to 3 mm. less in height than that of the adult. Dwight finds that "the height of the orbit bears very nearly the same proportion to the skull at all ages, that it equals barely a third of the adult face while it makes nearly a half of the face at birth." Byers made measurements of the base of the orbits in adult life, in ten cases, where the eye had been removed in childhood, and found but slight difference between the two eyes. In this connection we should bear in mind the lack of symmetry that is often found in normal faces, the center of one pupil being from 1 to 5 mm. further from the median line of the nose than that of the other, the same difference some times being noted in reference to the height. Operation: Enucleation is found to be the safest procedure, the modified operation with insertion of a globe in the scleral cavity being followed more frequently by sympathetic inflammation, resulting oftener in failure and being accompanied by such severe reaction as to render it unsuitable for old or debilitated subjects.

Discussion.

Dr. Oscar Dodd, of Chicago: Mr. President.—The paper of Dr. Loring is interesting, and such cases as have been reported are of interest to the general practitioner. I recall a case I saw a couple of weeks ago. The man was laying a gas pipe, a fellow-workman struck the pipe with a hammer, so that a particle hit the man's eye, but as a railroad train was passing he did not know but what it might have been a cinder that struck the eye. He was taken to a physician who examined the eye, and after some work (I do not know what was done by him) said a foreign body was not in the eye, and told the man it would be all right. This was on Thursday. The following Friday the man began to have pain; he reported his condition to the foreman of the company, and on Saturday I saw the case and found a penetrating wound a little outside of the cornea, and upon a more careful examination saw that something had entered the eye. An X-Ray picture disclosed a foreign body still present, probably in the back of the eye, as near as could be located.

This subject is of particular interest to the general practitioner, for the reason that all such cases should have skiagraphs taken. Those, of course, who live outside of a city, where an X-Ray apparatus is not at hand, should be sent to the city, and have a skiagraph taken if the inflammation and trouble do not

subside immediately. In the case I have referred to I was able to remove the foreign body with a magnet and saved the eye, as well as saved the company, which was responsible for this, probably several thousand dollars in damages, for the eye was nearly lost on account of the foreign body having remained there so long. I could see where it was quite firmly fixed in the coats in the back of the eye.

As far as sympathetic trouble is concerned, there are a great many of these cases, and as to the stump of an eye causing trouble, I recall one case sixteen years afterwards said he never had any trouble, but the patient came to me with failing sight, and at first I thought the stump of the eye had nothing to do with it. I finally decided, as his sight was rapidly failing, to have the stump removed. This was done. I saw him the other day, about five years after the removal of the stump, and his sight has remained perfect. All such eyes are dangerous, and the patients usually consult their family physician, who should understand that something should be done.

Dr. William H. Wilder, Chicago: There are several points in the excellent paper of Dr. Loring which deserve emphasis and closer attention than the doctor could give in the limited time at his disposal. One of these he touched on was the matter of physicians examining eyes. He hinted at the fact that certain physicians recommend patients to consult an optician, or some incompetent person like that, if there is any apparent defect in vision. A greater error could not be committed. Truly, it would not be proper for any physician of scientific mind to recommend his patients to go to an optician. This only happens in the country districts, and I do not believe intelligent physicians will recommend their patients to consult opticians when they have anything the matter with their eyes. I have known it to occur repeatedly that when a patient complains of defective sight a physician has recommended him or her, as the case may be, to go to an optician to get some glasses. The absurdity of that position can not be denied. The inaccuracy of such work is apparent, because it often transpires, that defective vision may be due to malignant disease in the eye which may threaten the individual's life, and promptness is the only thing that can save the patient's life. Many cases of melanotic sarcoma have their origin or primary lesions in the choroid coat or uveal tract, and nothing but the prompt removal of the eye, before the stage of increased tension and ciliary redness, can save the patient's life. We see the absurdity of recommending a patient to go to an optician to have the eyes examined. I think there are a great many cases of eye disease which the general practitioner should feel himself competent to treat; but there are, of course, a great many he would not attempt to treat, but he should know, as in any other department of medicine, his own limitations, so that he may realize when a patient is safer in the hands of another practitioner than in his own.

Dr. Loring (closing the discussion): Dr. Dodd, if I understood him correctly, spoke of sympathetic inflammation occurring somewhat frequently. It is not generally known how frequently that occurs, as it is difficult to obtain reliable statistics. These statistics would vary somewhat, depending upon the locality or place where they are taken. Certain blind asylums give a higher percentage of one class of blindness than others. Let us take Oppenheimer's, in New York, and Magnus', of Germany. It is found that in this country we have 4 per cent of cases of blindness in the asylums due to sympathetic ophthalmia; while Magnus gives 4½ per cent. The number of cases of blindness due to ophthalmia neonatorum, to suppurative infections of the eye in this country is found to be 19 per cent, while in the German hospital it is mentioned as being 10½ per cent. The cases of blindness due to glaucoma in this country are quoted as 5 per cent; in Europe they are found to be approximately 8 per cent. Therefore, we see that there is a considerable percentage of blindness due to sympathetic inflammation, and this is a disease, so far as our present knowledge goes, that is practically preventable.

INVERSION OF THE UTERUS—WITH REPORT OF CASES.*

BY P. L. MARKLEY, M. D., ROCKFORD.

Inversion of the uterus is very rare, according to Beckmon. Not a single case occurred in 250,000 labours in St. Petersburg Lying-in-Hospital, while Madden noted it only once in 190,000 deliveries in Dublin. But it seems to me that it is much more common in Northern Illinois, at least, than these statistics would lead us to believe. The reasons for its more frequent occurrence may be various, but I will not discuss them, as there could be no proof to corroborate the assertions.

According to Kelly and other authors, the cause in acute cases, which is found immediately after labour, is traction on the cord. The chronic form is either simply a duced in the non-puerperal uterus along with the expulsion of a tumor attached to its walls. The commonest cause of inversion is a submucous fibroid attached to the fundus uteri.

Diagnosis: Williams, of Johns Hopkins, says inversion of the uterus is promptly fol-

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

lowed by alarming symptoms, the patient presenting marked symptoms of shock with a weak, rapid pulse with a tendency to syncope. In other cases, convulsions occur, and a profuse hemorrhage is not infrequently noted. On the other hand the symptoms are very slight, and the condition may continue for several days without causing any serious annoyance to the patient. In rare instances the cervix may so retract about the completely inverted uterus that strangulation occurs, followed by gangrene.

Prognosis: According to Williams, if the condition is discovered promptly and the uterus replaced immediately, the prognosis is fair; Beckmon reporting a mortality of 14%. On the other hand, if strangulation or gangrene occurs, the outlook is bad.

Treatment: According to the author quoted above, in very recent cases, reposition can usually be effected without difficulty by pressure exerted by several fingers in the vagina, it being important to remember that the force should be directed upward in the axis of the superior strait. Neglect of this precaution undoubtedly accounts for a certain number of failures. Anaesthesia should be employed. If placenta is still attached to the uterus, it is generally advisable to defer its separation until reposition has been effected, because the contractile function of the inverted uterus being in abeyance there is always risk of profuse hemorrhage. On the other hand, if the patient is not seen until well advanced in the puerperium, and when the cervix is so contracted that reposition cannot be accomplished so readily, operative procedure becomes necessary.

In chronic cases one of the following three plans may be adopted:

First, by manual efforts.

Second, by vaginal amputation.

Third, by opening Douglas's pouch and incising the sac from fundus to cervix and re-inverting.

Manual efforts at reposition should be made first. To do this, the tumor is squeezed with one hand to make it longer and smaller, and then pushed with the other

hand, like a wedge, up into the cervix, through which it gradually returns in the reverse order of its formation, if the effort is destined to succeed. Another way is to grasp the tumor in the full hand, slipping the extended index and middle fingers of the same hand inside the cervical ring to dilate it, at the same time attempting to push the uterus up through the dilated ring. The other hand makes counter-pressure simultaneously through the abdominal wall, over the ring, helping to roll the cervical tissues back over the neck of the uterine tumor.

The difficulties in the way of a manual reposition are usually insuperable; they arise from the altered rigid fibrous character of the uterine tissue, with vascular engorgement and edema, as well as from the fact that the rigid neck of the inverted peritoneal sac is so much smaller than the body of the uterus which is to pass through it.

The surgeon is not warranted in making prolonged forcible attempts at manual reposition on account of the inevitable bruising of the tissues and the danger of laceration at the cervix. In a case of marked fatty degeneration of the uterine walls of six and a half years' standing, Dr. A. Martin, of Berlin, perforated them in attempting to effect a manual reduction; the patient died in collapse a few days later (*Path. und Therap. der Frauenkrankheiten*, 3d ed., Wien und Leipzig, 1893, p. 158).

A most natural suggestion to the surgical mind, in the present stage of abdominal surgery, upon the failure of manual efforts, would be to open the abdomen, to dilate the contracted canal from within by fingers and dilators, and then to push the uterine body up from the vaginal side through the enlarged canal into its normal position; this has been tried, but has not proved very successful.

Kelly says: "I note a failure of my own in a case of long-standing inversion with prolapse, in Philadelphia, eight years ago." The proposed plan was to open the abdomen and expose the neck of the inverted sac, and then to stretch this with long dilators,

and with the help of an assistant to force the body of the uterus up through the enlarged neck of the sac, producing reposition. He had further intended to prevent the recurrence of the inversion and prolapse by stitching the fundus to the anterior abdominal wall (Suspension of the Uterus, Chapter XXIV).

He opened the abdomen and exposed the narrow slit-like orifice at the site of the inversion, but his utmost efforts to make any impression upon the opening with fingers or dilators were unavailing, and he was obliged to abandon the attempt and relieve the patient by amputating the uterus through the vagina.

On the other hand, a successful operation of this kind was performed by Dr. T. G. Thomas, of New York, in September, 1869 (*Amer. Jour. of Obst.*, Vol. II). The patient was put under ether, when an assistant so forcibly lifted the uterus up against the abdominal wall that the intestines were displaced and the cervical ring could be felt. A small incision was then made in the median line of the abdominal wall down to the ring, opening the peritoneum. The operator now grasped the inverted uterus in the vagina, and at the same time introduced a powerful steel dilator into the neck of the sac on the peritoneal surface. The dilatation proceeded easily and rapidly, and the uterus was reinverted and restored to its normal form in twenty-seven minutes. The patient recovered and left her bed on the eighth day.

The second method, vaginal amputation of the uterus, remains a satisfactory alternative in case of failure of the preceding means.

After a thorough cleansing of the field the uterus is enveloped in sterilized gauze, grasped, and drawn down and exposed by pulling back the posterior vaginal wall with a speculum, so that the neck of the sac at the vaginal vault is accessible. The amputation is now begun by cutting two flaps at the neck of the inverted uterus, one anterior and one posterior, just below the vault of

the vagina. Before the peritoneum is opened three or four stout ligatures are passed with a large curved needle completely through the uterine stump in an antero-posterior direction.

The peritoneum is now cut through in front, and by continuing the incision cautiously out to the sides the uterine arteries and veins are found, clamped and tied as high up as possible with fine silk. An assistant keeps up a strong traction on the ligatures to keep the stump from inverting into the peritoneum. The operator now takes the ligatures one at a time and ties them tightly, bringing the lip of the stump firmly together. Additional deep sutures must be passed, if necessary, to check bleeding and secure accurate approximation. The stump closed in this way soon slips through the cervix, and a partial reinversion is established.

The most important point to bear in mind throughout is that the ligatures passing through the stump must keep the lips of the wedge-shaped incision firmly approximated, even after the reinversion has occurred. A dry dressing should be kept in the vagina; the sutures may be removed in ten days or two weeks.

Complete vaginal hysterectomy (panhysterectomy) may be performed by opening Douglas's pouch from side to side and the vesico-uterine pouch in front, and then hooking the index finger around one side of the cervix and passing a succession of ligatures through the tissue intervening between the finger and the vault, tying each ligature, and cutting between it and the cervix, taking care not to cut too near the ligature. The amount of tissue severed is small, and the uterine artery is soon ligated; and additional ligature must be applied to its free end.

The opposite side is ligated in like manner, and the uterus freed. The bladder does not enter the inversion sac. If there is no bleeding, the peritoneal surfaces of the wound may now be drawn together with a running suture, the ligatures arranged on the right and the left sides, and the vault of the vagina packed with iodoform gauze.

Prof. O. Kustner's method of reposition in chronic cases resisting simpler methods of reduction (*Centralb. f. Gyn.*, 1893, No. 41) is in entire accord with the recent developments of gynecological surgery, and promises success in cases which it has hitherto been found impossible to treat in a conservative manner. Kelly says: I have not yet had a case upon which I could try it, but, in view of the apparent feasibility of the plan, I give the details of the operation. It is, briefly, this: The peritoneum is opened, posterior to the uterus, and the neck of the sac is incised, relieving the constriction and making it large enough to push the fundus through. The steps are conducted in the following manner:

First, a wide transverse incision in Douglas's cul-de-sac opening the peritoneum.

Second, the introduction of the index finger through this opening into the the inversion funnel of the uterus, and separation of any adhesions found.

Third, a longitudinal incision through the posterior uterine wall, as nearly as possible in the median line. This begins about two centimeters below the inverted fundus and ends about two centimeters above the os externum, and extends all the way down to the peritoneum.

Fourth, reinversion of the uterus by fixing the funnel with the index finger in Douglas's pouch, and pressing in the fundus with the thumb of the same hand.

Fifth, suture of the uterine incision by deep and superficial sutures passed on the peritoneal surface.

Sixth, closure of Douglas's cul-de-sac with sutures. (Kelly.)

REPORT OF DR. G. M. HAINES.

CASE 1; Mrs. S., Primipara, age about 20—Time of pregnancy not known, but probably nearly or quite to the end of the eighth month.

I was called to see her October 22nd, 1894. She had been flowing slightly, but had no pain. Supposing it to be an attempt at premature labor I gave appropriate treatment and left her.

Was called again in great haste on the 25th. While sitting on a chamber she had had a very profuse hemorrhage; the blood coming from her with a gush. The rapidity of the bleeding had diminished considerably when I arrived, but was still quite free. An examination revealed a slight dilatation of the os, with the placenta coming down to the very margin, and possibly overlapping it a little. In due time she was delivered, although she lost considerable more blood. The child lived about four hours. She made fair progress from the time of delivery until the third day, when I was called and found that after quite a severe pain she had expelled quite a large clot, which was followed by a steady and profuse flow of blood. By palpation above the pubis I could not find any trace of the uterus. Examination per vagina revealed a large mass in that canal, having quite a degree of firmness, a careful study of which revealed it to be the inverted uterus. Calling Dr. Markley to assist me, we with considerable difficulty returned it to its normal condition, but on removing the pressure a part of it soon returned to its former inverted condition. The former site of the placenta could easily be defined, and after the first inversion, which appeared to be complete, had been returned little if any portion of the uterus was everted, except the placental site, which was the right posterior half of the lower portion of the body of the uterus. There was a free oozing of blood from the placental site, which was readily checked by the application of sterilized cotton saturated with hot water. All that portion of the uterus not above described was of normal consistency, and remained in normal position after the first efforts at replacement, but the segment referred to remained more than naturally soft and flaccid, or in a paralyzed condition, or as though the normal portion, by its contractile force, crowded the affected portion down and out, giving it the appearance of being simply everted.

The uterine cavity and the everted portion was thoroughly irrigated with hot water, as hot as could be borne, twice each day, five

or six days, during which time there was a gradual resumption of normal conditions, and she finally made a perfect recovery.

REPORT OF DR. BURTON, BELVIDERE, ILL.

CASE 2; Mrs. F. T. M., young woman, 20 years of age—First child. Difficult labor. Instrumental delivery. Was in severe pain for three days following confinement. Had a feeling, as she expressed it, as if something was coming down into the vagina, during the first three days following the confinement. On the fourth day she got out of bed to urinate and sat on a vessel. While straining the uterus came out beyond the vulva. She called her nurse, then fainted, and was put to bed severely shocked. She had no hemorrhage, but very severe pain. Her physician was immediately called, and found the uterus inverted and prolapsed. He tried to replace it, but only succeeded in returning it to within the vagina. Shock becoming more severe, he desisted further manipulation till four weeks later, at which time he was assisted by Dr. F. H. Kimball. They etherized the patient and succeeded, after long and tedious efforts, in placing it in its normal position. Her recovery has been slow, and even now, over five years since her confinement, she has not regained her health, frequently suffering severe pain in the pelvic organs.

REPORT OF DR. R. W. M'INNIS, BELVIDERE, ILL.

CASE 3; Mrs. W. P. W., young woman, 30 years old.—Second child. Was confined February 2nd, 1905. Labor was short and easy, child being born before the physician arrived. Her nurse was on hand. There was considerable hemorrhage. The physician in charge allowed the nurse to deliver the placenta under his directions. By slight traction on the cord and pressure on the fundus uteri the placenta was soon delivered. In a few minutes the patient complained of being faint; weak, rapid pulse; no severe hemorrhage. No pain, but all the symptoms of severe shock. An examination revealed an inverted uterus. Without an anaesthetic, with the method already described, the uterus was easily and quickly replaced and held there by a gauze pack, which was re-

moved on the second day and not replaced. Patient kept in bed ten days and made a good recovery.

CASE 4; Mrs. C., young woman, 20 years old.—First child. Difficult labor; delivered with instruments. There was a severe shock following the delivery of the placenta, which was done a few minutes after the child was born. There was no great amount of hemorrhage. There was some traction on the cord and pressure over the fundus of the uterus, but probably no greater traction on the cord than physicians frequently use. The patient had a pale face; weak, rapid pulse and remained so for twenty-four hours. There were grave fears that she would not recover, but inversion of the uterus was not suspected. The physician who delivered the child and placenta remarked that he could not see why there was so much shock, as he was sure the uterus was well contracted; but the patient finally got better and was up and around, but always flowing and was very anaemic. She consulted the physician, who gave the anaesthetic at her confinement, four months after the child was born, for uterine hemorrhage. He made a vaginal examination and found a tumor in the vagina, and, remembering how the woman acted when she was confined, easily made a diagnosis of inversion of the uterus. At this time I first saw the patient in consultation, and was asked to operate the case.

Patient was put under ether, and after thoroughly sterilizing field of operation, proceeded to replace the uterus, which was completely inverted. Being in this condition four months, and about double the size of normal uterus, I did not think I would be able to replace it. I began by taking firm hold of uterine body with the hand, squeezing and at the same time pushing upward in the direction of superior strait. Very soon the cervix began to curl down, then I put a vulsellum forceps on both sides of same and had an assistant to make traction on forceps, while I pushed up on the fundus uteri. In a short time the external os was down even with the fundus uteri. After the fundus uteri had receded into the cervix

I packed hot gauze onto the fundus, which seemed to be very effective. By continuing this method of traction on the cervix with forceps, pressure on fundus by packing tightly with hot moist gauze, and some time spent in helping to dilate the ring of constriction with two fingers above the pubis, the uterus was replaced after one and one-half hours hard work. It was then packed with gauze, which was left in place two days, when this packing was removed and repacked with fresh gauze. This was repeated three times, then the gauze was left out. The woman was kept in bed twelve days and made a complete recovery.

REPORT OF DR. W. H. FITCH.

CASE 5.—In 1883 Dr. Fitch attended this case. Frail woman, 26 years old. First child. Normal delivery. About one hour after placenta was delivered, which was delivered in a few minutes after the child was born, the woman was in profound shock. There was no great amount of hemorrhage. An examination revealed an inverted uterus. The uterus was replaced with out an anaesthetic, and without difficulty, but the woman died in twenty-four hours from shock.

CASE 6.—Was not a complete inversion.

Dr. E. C. Helm, Beloit, reports case as follows:

Mrs. M., aged about 25; second confinement. Lived about five miles in the country. Child born before the doctor arrived. The placenta was outside the vagina, but it was adherent to a partially inverted uterus. The fundus was down about even with the external os. The placenta was strongly attached to fundus and required about twenty minutes to complete the separation. There was little pain; not much shock or hemorrhage. Gentle pressure on the fundus uteri with hot gauze soaked in lysol solution replaced the uterus in two or three minutes. Did not use anaesthetic. The uterus was relaxed and flabby. With firm grip of hand on fundus and injection of ergot soon caused uterine contraction. Recovery was slow, but complete. She had a chronic endometritis.

CASE 7.—Dr. C. S. Sheldon, Madison, Wis., reports case as follows:

Occurred in 1903. Primipara. American, aged about 35 years. Large roomy pelvis with relaxed tissues. Pregnancy normal, only a great deal of stomach trouble, and two quite serious attacks of partial obstruction of the bowels. Labor normal, after waiting about twenty minutes, and there seemed to be the usual uterine contractions. I made gentle traction on the cord, when, during a violent pain, the placenta with the inverted uterus came down. I found the placenta attached to about the center of the fundus over an extent of three or four inches in diameter. I separated the adhesions, and should have immediately replaced the uterus but the degree of shock was so great that I thought best to send for assistance and give an anaesthetic before replacement. Meanwhile, though the shock was great and the pulse very rapid and feeble, the hemorrhage was not alarming. There was an interval of about thirty minutes before the arrival of assistance. When reposition was effected without difficulty. The condition of the patient was somewhat critical during the night following, but the next day reaction was satisfactory and recovery complete. The uterus was washed out three or four times with a weak formalin solution, as a prophylactic, otherwise no further treatment seemed necessary.

CASE 8.—Case of Dr. A. R. Franklin. Case occurred in 1899.

Mrs. S., 27 years of age. Second child. Tedious labor, but normal in other respects. After waiting about thirty minutes after child was born pressure was made on the fundus, according to Crede, and slight traction on the cord, when the placenta came away very easily, but it was followed by the inverted uterus and was adherent to the fundus uteri. There was considerable hemorrhage and all symptoms of shock. Assistance was called and an anaesthetic given, when, without much difficulty, the uterus was returned to its normal position and packed with gauze. The gauze was removed in about forty-eight hours and no further treatment required. Good recovery.

CONCLUSIONS.

1. We certainly are having more cases of inversion of the uterus than the statistics of Beckmon and Madden would lead us to expect. In private practice it is only possible to arrive at approximate figures, but I would say from facts that I have gathered that one case of inversion of the uterus in 5,000 deliveries would be very nearly correct for this locality.

A great difference from Beckmon's none in 250,000 deliveries and Madden's one in 190,000.

2. Traction on the cord seems to be a factor in producing inversion of the uterus, is shown in Cases 6, 7 and 8, where an adherent placenta undoubtedly produced the inversion. In Case 1 another factor is noted, and that is a paralyzed condition of the placental site. This undoubtedly was the starting point of the inversion of the uterus in this case. In another case reported here there seemed to be a gradual inversion, as indicated by a constant pain. Case 2 shows this; constant pain for three days following birth of child, then inversion was complete. A paralyzed condition of the placental site would account for this better than traction on the cord. Traction on the cord, in my opinion, is a factor in only a part of cases of inversions of the uterus in the list here presented.

THE OCULAR MANIFESTATIONS OF CHRONIC NEPHRITIS.*

BY L. E. SCHWARZ, M. D., CHICAGO.

The purpose of this article is not only to recount the eye symptoms of chronic nephritis with observations prompted by the writer's experience, but also to establish the value of these changes to the general practitioner, and urge the routine use of the ophthalmoscope in every case where nephritis is suspected. The condition of the refraction, the pupil and the media is usually favorable to a clear view of the fundus, and renders the

examination less difficult than is supposed, and the retinal changes are, as a rule, so characteristic that once seen they cannot readily be forgotten. The writer wishes to emphasize the fact that he addresses his remarks to the internist and not the ophthalmologist.

Albuminuric retinitis, also termed renal retinitis, papillo-retinitis and Bright's retinitis, occurs in from twenty to thirty per cent of all cases. When present, it is usually a grave manifestation of the later stages of chronic interstitial and chronic parenchymatous nephritis, and on that account is looked upon with apprehension. Although generally bilateral, it may not begin at the same time in each eye, or involve them to the same extent, and shows no partiality as to age. It is certain that the term albuminuric retinitis is a misnomer in some cases, inasmuch as the conditions may exist in nephritis without albuminuria.

The etiology of albuminuric retinitis is the etiology of nephritis, whether acute or chronic, interstitial or parenchymatous, and is probably comprehended in the excessive formation or faulty elimination of endogenous or exogenous toxins. The types of retinitis in acute and chronic nephritis are exactly similar, the difference being that the first is caused by a concentrated toxin acting over a short period, and the second by the influence of an attenuated toxin for a longer time. Both the eye and the kidney are end organs, each provided with a terminal vascular system. This fact, with the increased tension and venous stasis, constitute very important etiological factors. Retinitis is most common in chronic interstitial nephritis, and least frequent in amyloid kidney.

The pathological process in the retina and optic nerve-head is a round cell infiltration, with fibrinous exudation, thickening of the internal limiting membrane of the retina, and dislocation or destruction of the rods and cones and pigment epithelium. The characteristic changes in the macular region are due to fatty degeneration and infiltration of the supporting fibers of Mueller, and the star formation has been explained by the radial

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

arrangement of these fibers, and of the vessels. The greater number of the white points and plaques found elsewhere are caused by fatty degeneration of the hypertrophied granular layers of the retina, and by fatty degeneration, round cell infiltration and varicose hypertrophy of the *nerve fibers* (De Schweinitz). Anatomically, the most important changes occur in the vessels, both retinal and choroidal, in the form of endarteritis, periarteritis and hyaline degeneration. The small arteries are particularly affected.

A convenient classification of the forms of retinitis is the following, by Schöbl: (1) Typical albuminuric retinitis; (2) degenerative albuminuric retinitis; (3) hemorrhagic albuminuric retinitis; (4) albuminuric chorio-retinitis; (5) albuminuric neuroretinitis; (6) albuminuric papillitis; (7) saturnine retinitis. There is a constant merging of these types to some extent, but of the foregoing the degenerative group comprises by far the greater number of cases of retinitis seen, and deserves more than a brief description. The ophthalmoscopic picture develops by three stages as follows: First, a hyperemia of the optic nerve-head and neighboring retina, the former becoming reddish, opaque, and slightly swollen, with edges ill-defined or invisible. The retina, in the vicinity of the papilla and macula, loses its normal transparency, becomes dusky, pale gray, or grayish-red, slightly swollen and shot with faint opaque stripes, but the peripheric retina is not involved. A few scattered, very small white or yellowish-white points soon appear in the crotches of the vessels (Suker) in the macular region, and near the disk, and the retina becomes splashed with flame-shaped, round or irregular dark red extravasations of blood. These hemorrhages are located in the nerve fiber layer, along, beneath and occasionally above the vessels, and show great variation in number and size. They recur frequently and absorb slowly. The retinal arteries are normal or slightly narrowed, and the veins are larger, darker and more tortuous than normal. Both arteries and veins are frequently

bordered by white stripes, and at points along their course obscured by the opaque retina. The second or degenerative stage is ushered in by the appearance of numerous minute white or pale yellowish-white dots and spots in the macular region, and in the swollen retina surrounding the optic nerve-head the so-called circumpapillary zone. These points and spots rapidly merge or coalesce, forming irregular, brilliant white plaques, varying in size from pin points to areas of larger diameter than the disk, but do not form a continuous zone or ring around the optic nerve-head. There is little or no pigment disturbance at this time. The veins are now larger and more tortuous than in the first stage. The white plaques are not equally definite in outline or brilliant in color, some having ill-defined borders and a slightly yellowish tinge. It is to be remarked that while very numerous in and around the macula, these dots and plaques do not form the well-known star.

Of the third, or stage of atrophy, there are extremely few samples, inasmuch as the development of this stage is generally interrupted by the death of the patient. The plaques pass through gradations of white, gray and yellow, become indistinct and almost disappear. The optic nerve-head shows signs of incipient atrophy, and the arteries are much narrowed and in places even obliterated. Contraction of the visual field is not usual.

The so-called typical retinitis of Liebreich follows closely the degenerative form just described, both in its stages and development, with this addition: A continuous ring or zone, of snowdrift appearance, is formed around the optic nerve-head by the merging of numerous foci of fatty degeneration, while surrounding the macula similar points of degeneration, instead of coalescing, form in radiating lines or spokes, with the macula as a center, thus producing the much described stellate figure.

Hemorrhagic albuminuric retinitis (of the pure type) is most apt to occur in patients over fifty years of age, and shows a slight

hyperemia in the papilla, but no inflammatory change, either there or in the retina. The ophthalmoscopic picture is chiefly made up of very numerous hemorrhages into the retina of every possible form and great variety of sizes. The type is very rare, and its differential diagnosis is not always easy. Its prognostic value is alluded to farther on.

Albuminuric chorio-retinitis is uncommon, and is distinguished by the formation of exudates and more or less numerous pigment deposits, which may invade the retina, forming outlines to the plaques of degeneration. It should be remarked here that the choroid is more or less involved in all cases of the inflammatory type, but usually the changes cannot be detected by the ophthalmoscope, also that central choroiditis may precede the retinitis by several weeks. Albuminuric neuro-retinitis is a term which may apply to any of the foregoing types, merely by the addition of optic neuritis. This addition must necessarily render the case atypical, cause a transition of one form into another, or only exaggerate the existing type.

Albuminuric papillitis is very rare. The reddened opaque and enormously swollen optic nerve-head projects noticeably above the level of the surrounding fundus. The altered vessels turn sharply over the toadstool-like surface to reach the level of the retina, and in places entirely disappear in the semi-opaque tissue. The veins are greatly distended and very tortuous. The condition terminates in atrophy, if not interrupted by the death of the patient. The same conditions are produced by cerebral neoplasms and cysts.

Lead poisoning is the etiologic factor in Saturnine retinitis, and produces fundus lesions similar to those found in the degenerative form. The belief is held by many that in a respectable percentage of cases nephritis does not exist, and that the metallic poison acts directly on the eye.

Complications are more or less infrequent. The list includes embolism of the central artery (Völcker); thrombosis; rarely plas-

tic iritis; recurring subconjunctival hemorrhage (Talko), Samelsohn, Schöbl); hemorrhage into Tenon's capsule (Wharton Jones); amotio retinæ; amblyopia; and hemorrhagic glaucoma (De Wecker, Mooren, Jocqs).

Albuminuric retinitis is not pathognomonic. This sentence tells the story as far as diagnosis is concerned. Diabetes, cerebral tumor, cerebral cyst, anemia, arteriosclerosis and chlorosis may cause the same retinal changes as nephritis. The lesions are easily recognized, but the nature of the co-existent systemic disorder cannot be determined with the ophthalmoscope alone. The burden of the diagnosis must rest almost always on other data, although the infrequency with which the type occurs in other diseases makes it a strong diagnostic factor.

The prognostic value of retinitis is greatest in those patients under fifty years of age; beyond that point it is futile to interpret this sign, because general circulatory and other conditions are of greater importance. Observers agree with unanimity that the prognosis in typical cases is extremely unfavorable, both as to life; and, in prolonged cases to vision. Death usually occurs eighteen months to two years after the appearance of the retinal changes, but in rare instances the patient may live six years, or even longer. The damage to vision develops slowly, and is entirely subordinated to the grave general condition.

Sudden blindness may be due to hemorrhage, but is usually caused by uremia. Transient amblyopia is common, varies according to the condition of the patient, is not dependent on the retinal lesion, and has no especial value in the prognosis. The very rare hemorrhagic form of retinitis is commonly thought to point an invariably fatal prognosis, but the writer's experience does not accord with this belief. Concerning the value of unilateral retinitis, the few cases noted by the writer occurred in the course of rather mild nephritis, and although the ocular symptoms were severe, remarkable visual acuity was preserved throughout and the patients have progressed favora-

bly. According to Fox, when subconjunctival hemorrhages occur, they precede both retinitis and nephritis by a long period.

The conclusions to be drawn are as follows:

1. An ophthalmoscopic examination should be made in all cases where nephritis exists or is suspected.

2. The non-existence of retinitis must not be inferred because visual disturbance is absent.

3. Ocular manifestations are invaluable where nephritis without albumin exists.

4. The severity of the renal symptoms does not influence those of the eye necessarily.

5. Retinal changes may occur before any definite clinical symptoms of nephritis develop. See 7th.

6. Unilateral retinitis gives a relatively hopeful prognosis.

7. Retinitis may be the first indication of nephritis, even in the later stage.

8. The prognostic value of the hemorrhagic type is not greater than that of other forms of albuminuric retinitis.

MEDICAL TREATMENT OF NEPHRITIS.*

BY ARTHUR R. ELLIOTT, M. D., CHICAGO.

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and Hospital.

Many excellent recent contributions fully discuss the nutritive problem of Bright's disease and leave little to be said regarding its dietetic treatment. Among notable contributions may be singled out for mention and commendation the work of von Noorden and his associates. As an outcome of these and other investigations, we find that the dietetics of Bright's disease is today on an unquestionably more advanced and rational basis than in former years. If any criticism is to be passed on the correctness of the conclusions of von Noorden and others who have worked along similar lines, it is that in their investigations attention has been too exclusively focused on the kidneys.

Undoubtedly the principle of economy of work to diseased organs is scientifically a sound one, but in the disease under discussion the fact must not be lost sight of that we have to deal with a widespread nutritive perversion of which the nephritis is but one manifestation. While we must admit that in most cases the kidney lesion in the end vindicates the claim to first importance, other organs demand attention during the progress of the disease, and contribute very largely to the symptom group which characterizes this affection. These other considerations oftentimes of equal importance with renal demands must be taken into account in the framing of a dietary, and for this investigators have made little allowance. Among important indications which must be taken under consideration are the digestive powers of the patient, the functional capacity of the liver, especially its toxin-destroying power, the presence of anemia or plethora, and often most important of all the cardiac condition and the degree of blood pressure. No routine diet can, therefore, be laid down for the patient with chronic Bright's disease. If the patient be a confirmed dyspeptic, our measures for diagnosis of the gastric and intestinal states must be as careful and exact as are employed to determine the urinary condition. Such a patient may perhaps be best dieted for his dyspepsia, without regard for the nephritis, the latter being thus most benefited by measures directed to control of the digestive toxemia. In the presence of marked anemia a certain disregard of circulatory and renal consequences may be justified in our efforts to improve the blood state. With low tension a comparatively full diet, rich in proteids, without restriction of fluids; in cases with high tension, a low diet, poor in animal proteids and restriction of ingested fluids is indicated.

In cases marked by cardiac irritability and signs of circulatory failure, the indications for diet must be taken from the heart and circulation more than from the kidneys, such cases becoming in effect cases of heart disease more than renal disease.

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

In short, each patient coming under observation for chronic Bright's disease should become an individual study, and the indications for its management must not be interpreted according to any fixed rules of procedure, but be founded on the results of careful and complete clinical investigation, the lines of treatment being directed in the order of their importance, according to the patient's complete organic needs.

To fully discuss the treatment of chronic nephritis with its wide range of associated systemic defects is a task too great to accomplish in the short space permitted. I have elected to present the subject in the following simple and practical order: (1) Treatment of chronic nephritis without dropsy; (2) treatment of chronic nephritis with dropsy; (3) treatment of uremia.

The existence of dropsy in chronic nephritis cannot, of course, be taken as a basis for classification, and it is even a rather arbitrary procedure to attempt to develop clinical distinctions from this point. Still, as a rule, cases coming under observation fall naturally into two groups—those without and those with edema.

Cases of the first class—those without dropsy—are principally examples of the type chronic interstitial nephritis during the stage of cardio-vascular compensation. It is true that chronic diffuse nephritis may occasionally display no dropsy, but, as a rule, more or less edema is manifest in this type of the disease. The main indications in the management of this type of chronic nephritis may be summed up in the protection of the kidneys from irritation, especially the strain imposed by intercurrent acute toxemias, and the maintenance of cardio-vascular compensation. The first of these two indications is fulfilled by careful regulation of the patient's diet and personal hygiene. The question of the best diet suitable to these cases I will not enter into, owing to the elaborate care which has recently been expended on this subject by eminent authorities. The personal hygiene of the patient is hardly a less important matter.

In order to engage the full co-operation of the patient, it will be well to state his case fully to him, emphasizing its necessities and the importance of strict obedience. In submitting our advice as to diet and hygiene, the patient is to be informed that the directions are for his permanent guidance, and to prevent misunderstanding we should furnish him with full written particulars of the course to be pursued. The proper clothing, baths, etc., for these patients will not occupy our attention now, owing to the familiarity of such details. We should urge these patients to such a regulation of their lives as will enable them to spend a large share of their time in the open air—especially in the country, where the diet, pure air and primitive physical environs simplify the nutritive problem and furnish immunity from accidental infections. The open air treatment is well-nigh as striking in its beneficial effects in nephritis as in tuberculosis. Exercise is of vital importance to these subjects. A good gauge of the patient's endurance is found to be a feeling of oppression and fullness in the chest, and instruction must be given against walking so far or so fast as to produce this uncomfortable sensation. It is well to advise our patients with this disease to avoid high altitudes, the limit of safety for residence purposes being 3,500 feet above sea level. Oliver's blood pressure observations show that above that point the circulatory pressure rapidly increases. Medium altitudes—about 2,000 to 3,000 feet—will lower mean arterial pressure, and this may be considered in sending patients with plus pressure to the mountains. In directing our patients regarding the amount of water they are to drink, our advice must run counter to popular prejudice. The excretion of urinary solids cannot be materially increased by copious water drinking. Moreover, arterial pressure is raised and the mechanical burden of the heart is increased thereby. Our advice must, therefore, be in favor of a strictly moderate indulgence in fluids and against overindulgence, and the patient is to be especially warned against the injurious effects of the immoderate use

of mineral waters, of which sanitarium and "spa" treatment so largely consist.

The doctrine of "moderation in all things" is to be preached in season and out of season to these patients, the end in view being to suit the amount of work required to the capacity of the diseased organism for its performance,—in short, to avoid hyperfunction.

Two indications of vast importance to the case of chronic nephritis require special mention. They are the care of the bowels and the maintenance of cardio-vascular equilibrium.

The nephrolytic action of the toxic products of disturbed digestion is now well recognized. Constipation undoubtedly favors the formation of these bodies. In addition to their renal effects, they increase arterial tension. Our utmost care should consequently be directed toward securing regular evacuation of the bowels. The action of aperient drugs should be supplemented by high rectal enemata, administered in the knee-chest or recumbent position at regular intervals to prevent fecal stasis in the colon.

In chronic nephritis there develop sooner or later during its progress certain well-marked cardio-vascular changes, consisting of sclerosis of the arteries and cardiac hypertrophy. The essential feature of the circulatory state is high arterial tension. This is true not only of so-called chronic interstitial nephritis, but even when chronic nephritis follows acute infective nephritis, the change is marked by development of increased blood pressure and cardio-vascular sclerosis. The majority of cases when they come under observation manifest typical high pressure symptoms, but if no edema is present we may infer that the compensatory cardiac hypertrophy is still secure. The cardiac compensation is, however, one of tense adjustment, becoming constantly more sensitive to disturbing influences. The changes in the arteries are progressive and the increased blood pressure permanent, so that it is only a question of time when increasing peripheral resistance will outstrip the power of the heart to cope with it, and

dilatation of the ventricles result. When that time arrives, the diminishing urine, increasing albuminuria, and uremia will leave us in no doubt as to which organ has conserved the life of the patient. Kidneys which can amply maintain their function under increased cardiac force and high blood pressure become miserably inadequate when such support is removed. The clinical history of the large majority of cases at their termination is that the excretion of urine was sufficiently good for the maintenance of life, and that death originated in cardiac failure or resulted from one of the cerebral accidents of excessive arterial tension. This being the case, it is a matter of the first importance to direct our efforts toward the regulation of the circulatory effects of the disease. The *indicatio causalis* for the preservation of an adequate heart is to regulate within safe bounds the arterial blood pressure. We must not, however, lose sight of the fact that a certain degree of increased arterial pressure is necessary for the comfort and safety of the patient. Samuel West has said: "The patient is best without granular kidneys, but if the kidneys be granular it is better that the tension be high than low." The experience of the writer is that no cases are so hopeless and unresponsive to treatment as those marked by low tension. In the treatment of cases of chronic nephritis some instrument for the estimation of the blood pressure is necessary, and the sphygmomanometer should be employed to conduct routine observations from time to time. The physician who depends upon his stethoscope only for information as to the circulatory state of these cases is apt to be more a detriment than a help to his patients.

In the treatment of high pressure cases the basic indication is the removal of the underlying toxemia which causes the widespread vaso-constriction. This is accomplished best by careful dietetic and hygienic regulation, and assisting the kidneys by securing free elimination from the skin and bowels. When these requirements have been fulfilled and the tension remains persistently

elevated, we must have recourse to vaso-dilator medication to mitigate the exhaustive conditions imposed on the heart. We must realize the limitation of such medication, and as it constitutes purely symptomatic treatment, never depend on it to the neglect of hygienic and dietetic measures. It is a comparatively easy thing to reduce the systolic blood pressure a number of points within a few minutes by means of the administration of an active vaso-dilator, such as nitroglycerin. The effect of such a dose is unfortunately very transitory, and, notwithstanding the striking temporary effect, the fact remains that it is a difficult thing to produce a permanent reduction of blood pressure by means of vascular drugs. Persistent routine medication alone will effect such a result. At what point in chronic nephritis are we warranted in commencing vaso-dilator medication. Much will depend on the patient's general sense of well-being and absence of symptoms, but it may be stated that when cardiac irritability or evidence of disturbed cerebral circulation (dizziness, tinnitus, etc.) appear, interference is warranted. For the rest, we must depend upon the readings of the sphygmomanometer. As a rule, a systolic blood pressure of over 150 mm. of Hg. is necessary to produce symptoms. At this point hypotensive medication may be instituted. The patient should take a morning saline laxative of magnesium sulphate, Rochelle salts, or one of the aperient mineral waters. A mercurial purge at intervals of a week or ten days is often of the greatest benefit, exercising a double effect both as a peripheral dilator and by increasing the toxin-destroying function of the liver. A vaso-dilator excellent for its permanent influence is a combination recommended by Brunton (*Deutsche Med. Wochen.*, Leipsic, Von Leyden number, 1902). This consists of:

Potas. Bicarb.....	1.8
Potas. Nitrat.....	1.2
Sodi. Nitrit.....	0.3

The potassium salts are said to have a paralyzing effect on the heart. This effect is desirable in cases requiring less energetic

heart action and increased permeability on the part of the arteries, thus lowering pressure at both ends of the circulation. A decided diuretic effect is also secured by the potassium salts. The writer has employed this combination in a number of cases with the greatest benefit, giving it twice daily, well diluted. Another excellent vaso-dilator for continuous use is erythryol tetranitrat. It may be administered in one-fourth grain doses several times daily, until a mild headache is produced, when the dose is slightly lowered. This drug may be used for weeks and months with good effect, discontinuing it for a week during each month. Another vasodilator of which I hesitate somewhat to speak is aconite. This drug is enthusiastically lauded by W. H. Thompson (*Medical Record*, May 16, 1903) for its effects on excessive arterial tension in Bright's disease, and he reports some striking examples of its efficacy in cases marked by asystole, with high tension. He orders it in five minim doses every three hours. Although it is difficult to explain the vascular effect of this drug, since it is not a direct vaso-dilator, but rather a cardiac sedative acting through the vagus mechanism, the empirical fact remains that it will lower blood pressure in an astonishing manner. In a recent case of my own a blood pressure of 247 mm. (Riva Rocci, 9 cm.) was reduced 50 points in a few days by aconite with great benefit to the patient's condition, the maximum dose employed being seven minims every three hours. In using the drug, I prefer to begin with small doses in order to guard against idiosyncrasy and afterward gradually increase to five minim doses, or higher. It is hardly necessary to state that so powerful a depressor drug as aconite should be used with every care, and only in cases marked by excessive tension and threatened heart failure.

Iodide of potassium is another means of lowering tension, of which the writer can speak with satisfaction. It is difficult to say in what manner it exerts its effect, as iodine is not a direct vaso-dilator. Recent

observations would indicate that it acts by diminishing the viscosity of the blood, and in this way reduces capillary friction, and so lowers peripheral resistance. I know of few medicinal effects more satisfactory than the manner in which prolonged iodide administration will protect the heart from the ill consequences of high tension. It must, however, be given more or less continuously for long periods, covering in fact months and years. In the presence of high tension some restriction of fluids is indicated, and the patient's habits are to be carefully revised to avoid physical and nervous overstrain.

In the stage of sustained blood pressure and adequate heart without edema, digitalis is to be withheld, as its use is unscientific and harmful. The other cardiac tonics come under the same ban. Diuretics are unnecessary, and do no good. In fact, no medication is indicated other than cardio-vascular regulation, and such measures as may become necessary to overcome intercurrent functional troubles. Intercurrent illnesses, however slight, during chronic Bright's disease should be followed by prolonged convalescence, owing to the circulatory strain constituted by effort in a reduced condition.

Whenever the heart, which has hitherto performed its work satisfactorily, suddenly displays vagaries of action, it should not be taken unreservedly as a sign of failing compensation. Some underlying reflex cause will usually be found, the correction of which will avoid serious damage to the heart. Early evidence of genuine cardiac incompensation calls for positive action. This need not necessarily consist of digitalis or other cardiac tonics, for rest in the recumbent position, restriction of fluids and general tonic measures will often restore the working capacity of the heart. Should the derangement of the cardiac action threaten to produce or actually result in dilatation, digitalis is indicated.

When the patient with chronic nephritis has become edematous, one of two things has happened: He has either developed diffuse inflammatory changes in the kidneys,

or the heart has dilated. The nephritis may, of course, have been a chronic diffuse process, marked by dropsy from its inception. On the other hand, it is quite as likely to be a case of chronic interstitial nephritis, which has become converted into a diffuse nephritis by means of acute renal irritation from cold, excesses or acute intercurrent infection. It is also a fact that a large number, if not the majority, of cases displaying dropsy are chronic nephritis with failing heart, the dropsy developing as a result of ventricular dilatation. Dropsy in the course of chronic renal disease is not necessarily renal dropsy. It is quite as frequently cardiac dropsy. A better word would probably be cardio-renal dropsy. The distinction is important, especially from the standpoint of treatment. When we can decide that the dropsy, suddenly occurring during the progress of chronic nephritis, is due to an acute exacerbative inflammatory attack, the patient should be put to bed, placed on a light milk-farinaeous diet; sweated and purged until the renal congestion subsides. Baccelli (*Münchener Med. Wochen.*, L, No. 52) has recently recommended in this form of renal congestion the withdrawal of 300 c.c of blood from the vena pedia. He reports great benefit and his results have been verified by others. By this procedure he seeks to lower blood pressure in the ascending vena cava, and so by creating a suction force in the venous channels relieves the congestion in the kidneys. The results are neither so prompt nor so energetic when the blood is withdrawn from the arm. After the renal engorgement has subsided, and the edema disappears, it is important to insist on a long gradual convalescence, to ensure a full return to former conditions.

When the dropsy is extensive and due to established diffuse nephritis, we are forced to rather round-about means to relieve the renal blockade. Diuretics have next to no influence over purely renal dropsy, and their use will prove disappointing. Prolonged rest in bed is often of the greatest benefit, and should be enforced. These cases should be treated on the "little water and no salt"

plan. Fluid intake should be restricted to the lowest amount compatible with comfort. The principle of dechloruration is to be enforced. Time will not permit of a discussion of this interesting contribution to our treatment of edemas. Since its introduction two years ago, it has earned for itself an established place in physiologic therapeutics as solving one of the underlying factors of dropsy, both cardiac and renal. In severe cases of anasarca the patient is to be entirely deprived of salt. In moderately severe cases the degree of diuresis may be taken as a criterion of the amount of salt we may permit the patient. As the normal percentage of chloride of sodium in the urine is about .5 per cent, we can safely permit as many half grams of salt as there are 100 c.c.'s of urine. For instance, when the daily urine amounts to 1,000 c.c. the patient can ingest 5 grams of salt. As a diuretic in renal dropsy we possess no better measure than colonic irrigation. The effect on the renal gland activity of this measure is often remarkable. Large volumes of solution at a high temperature are to be used. Decinormal salt solution is a violation of the dechloruration principle, consequently bicarbonate of soda solution of the same strength is to be preferred. From two to four gallons of this solution, at a temperature of 110° to 120° F., are allowed to flow into the bowel through a Kemp's rectal irrigator or double-flow rectal tube. The single precaution necessary is to provide against a further increase of tension in high-tension cases by simultaneous use of a vasodilator.

When the degree of dropsy is such as to produce severe tension of the skin, the legs and scrotum may be drained by punctures under aseptic precautions. Hydrothorax, if the amount of fluid in the chest is such as to embarrass the heart's action, should be relieved by tapping, and ascites of high degree will require paracentesis. These latter measures may be repeated as often as the indications are renewed. I cannot recall that I have seen the anemia increased or the patient's condition prejudiced in any

way by repeated paracentesis. On the contrary, by temporarily relieving pressure on the venous trunks, we exert a favorable influence over the renal engorgement. Energetic diaphoresis offers us a valuable means of relieving renal engorgement, and assisting the kidney in its eliminative functions. Bendix (*Deutsche Medicin. Woch.*, XXX, No. 7) found that when the freezing point of the blood was normal (5.6° °C), the most energetic sweating process failed to influence it. When, however, it was pathologically low, as in chronic Bright's disease, sweating raised the freezing point to normal, showing that more solid substances were eliminated under these circumstances than when the freezing point remains at a constant level. This is particularly noticeable in cases of uremia. These experiences emphasize the value of energetic sweating processes in nephritis. If the blood count shows the patient to be anemic, some form of iron should be administered, although it is well to remember that the anemia being of toxic production is not so readily influenced by hematinics as under other circumstances. Valuable as iron is in the anemia of Bright's disease, its indiscriminate use in the form of Basham's mixture has unquestionably done a good deal of mischief. Basham's mixture is prescribed with a freedom in all forms of Bright's disease, as if it were regarded as a specific for nephritis. It never was suggested that it possesses any curative value, but is merely a remedy for anemia, as under other circumstances. Not every case of Bright's disease is anemic, and it is clearly not indicated in non-anemic cases. In chronic interstitial nephritis it may do positive harm by helping to raise blood pressure. It is most useful in chronic diffuse nephritis, because this form is most frequently associated with anemia.

In cases of dropsy with dilated heart occurring in chronic nephritis, the treatment will differ materially in some essentials. Simple rest in bed will often bring about a restoration of heart function and subsidence of dropsy. Unfortunately many pati-

ents with high tension and failing hearts are very uncomfortable in the recumbent position, suffering from asthmatic symptoms and dizziness. These symptoms are the result of elevation of blood pressure in the lying position. Vaso-dilators may serve to control this, but often one is compelled to compromise on the sitting position, even allowing the patient to spend nights in a chair. These are cases which display the inverse pulse and paradoxical rise of blood pressure on lying down. Prolonged rest in bed, even in patients who can do so without discomfort, is hardly desirable in cardiac hypertrophy of Bright's disease. The dynamic forces of the circulation being lowered by bodily inactivity, a rise of blood pressure in the vena cavæ throws still more upon the already weakened heart, the work of maintaining the circulation.

The drug *par excellence* in cardio-renal dropsy is digitalis. Any reliable preparation of the drug may be employed. I have never been able to satisfy myself of the superiority of the infusion in these cases. In giving digitalis it is necessary to guard the patient with Bright's disease against the vaso-constrictor influence of the drug by means of the simultaneous use of a vaso-dilator. The only exceptions to this rule are constituted by those rare cases in which the blood pressure is low throughout the disease, and in cases where the cardiac weakness has caused secondary low blood pressure. A drug of great value in cases of cardio-renal dropsy is theobromine and its salts, the salicylate and sodio-salicylate (diuretin). Very remarkable results are sometimes secured by the administration of these preparations in dropsy, with underlying cardiac causes. There is evidence accumulating that leads to show that theobromine acts upon the heart by stimulating the elimination of retained chlorides, and so secondarily improves the heart's action by lessening the circulatory load. When the heart is weak, the patient must be well nourished, and receive a fair proportion of proteid food. Severe and restricted diets are to be avoided in nephritics with bad hearts.

The patient with chronic nephritis is never entirely free from the danger of uremia. Although its development is usually a progressive and gradual affair, it not infrequently falls suddenly upon the patient without warning. We sometimes see a case in which uremic coma or convulsions is the first symptom to betray the presence of chronic Bright's disease. Any acute intercurrent disturbance, such as a simple cold or diarrhea, may serve to precipitate a violent uremia. Gastro-intestinal disturbance especially favors the development of the uremic toxemia, often no doubt by inducing bacillus coli commune invasion of the kidneys. This fact emphasizes the importance already referred to of keeping a clean bowel.

In the presence of uremic manifestations, however slight, purgatives are to be employed without hesitation. It should be one of the rules of treatment in nephritis to give a purgative each time the patient complains of headache, dizziness, mental hebetude, dyspnea, etc., all of which may prove to be precursors of uremia. At the first appearance of uremic symptoms all proteid food should be withdrawn. Strubell (Wiener Klin. Woch., July 8, 1901) found that dogs with experimentally induced uremia lived twice as long when fed with carbohydrates as when fed on proteids and fats.

Our blood pressure observations will enable us to gauge in some measure the imminence of uremia, the intensity of the uremic toxemia being accurately expressed by the arterial pressure, which as a rule rises steadily as the toxins accumulate. An increasing blood pressure should, therefore, put us on our guard. In acute uremia an important point is gained by lowering blood pressure. Our best and speediest vaso-dilator to relieve the high tension of uremia is venesection. This measure exerts its best effects in uremia complicating acute nephritis. It is of less dependence in chronic nephritis, and is only to be used in sthenic cases with high tension. It is to be avoided in asthenic and far advanced cases. The relief following venesection is transient, but may serve

a good purpose when supplemented by other active measures, such as sweating, enteroclysis, catharsis. Sweating should be carried out vigorously and as soon after onset of the uremia as possible. As soon as free diaphoresis has been induced, the sweat may be temporarily interrupted, as its persistence for too long a time may become a harmful influence. Enteroclysis by continuous irrigation of the colon with large volumes of hot bicarbonate of soda solution constitutes one of our most active measures for inducing diuresis and diaphoresis. Subcutaneous saline infusions, although beneficial in the uremia of acute nephritis, are much less effective in uremia of the chronic disease.

Time will not permit of further discussion of measures employed to combat uremia. Reference may, however, be made in conclusion to lumbar puncture. Seiffert (*Münch. Med. Wochen.*, LI, No. 10) has employed this measure extensively in acute uremia, with great benefit. It may be employed in uremic coma and convulsions of chronic nephritis, although probably with less likelihood of success. Le Grain and Marie speak highly of the effects of this procedure in uremic headaches.

There are many important points which are not touched upon in the foregoing brief consideration of the treatment of chronic nephritis, and the writer is compelled to forego from lack of time any reference to the treatment of complications, and special phases of the disease.

The ability of the organism to adjust itself to the disturbed equilibrium of impaired organic health is marvelously displayed in many incurable diseases of important organs, and we often stand amazed at the length to which the thread of life is spun, notwithstanding the gravest organic lesions. Under no circumstances is this faculty for adjustment so wonderfully illustrated as in chronic kidney disease. Despite the most serious defects, nature's compromise not only preserves a balance of fair health, but does so for as-

tonishing periods. A realization of this fact should be a warning to us that nature needs our assistance only, seldom our interference.

There is no room for pessimism in our attitude toward this disease, and while obviously there is no remarkable cure to be performed by any mode of treatment, careful regulation of the life, and attention to little details, judging nothing unimportant, will secure results which are unsurpassed in any of the chronic dystrophies. The two indications most important in this disease, in the estimation of the writer, are to protect the patient from intercurrent acute disturbance, and maintain the compensatory adjustment in the circulation.

103 State Street.

Discussion.

Dr. Geo. F. Butler, Chicago: Dr. Mix failed to call sufficient attention to the nervous symptoms of chronic nephritis, which, it seems to me, are more important than the gastro-intestinal symptoms. Many cases I have seen have first complained of loss of temper, anxiety, inability to arouse their mentality and other nervous manifestations; while their gastro-intestinal condition has been excellent, and only later do they complain of gastro symptoms. I merely want to bring out the point of nervous manifestations early in the disease.

Nearly all manifestations of chronic nephritis are due to a toxemia, and it is the faulty elimination that we must treat; the symptoms, not the disease. I know of one case of interstitial nephritis who limited his meals to one in twenty-four hours. He improved markedly. It is not so much a question of variety of food as one of quantity. Most of these cases eat too much.

In these cases precision in diagnosis is very important. We must examine carefully the heart and the whole circulatory system in arriving at a diagnosis.

As to diuretin, I have found that its action varies considerably in these cases. Some it makes very much worse, even within twenty-four hours; while in others it acts like a charm. If after using it for three days, of fifteen grains each, I do not get a marked improvement, as shown by a decrease in the urine, I discontinue it.

As a vaso-dilator, when dilatation of the blood vessel is necessary, and especially in cases where you have to use a heart tonic or stimulant, but still want to overcome the action of digitalis on the blood vessels, I use a little deodorized tincture of opium. Theoretically, that is wrong; but clinically, I find that it has an excellent effect on the blood vessels.

Another alkaloid I wish to mention is,, which seems to have quite an influence in lowering the tension, when that is necessary.

Dr. Long.....: I would like to ask Dr. Mix whether inhaling the fumes of prussiate of potassium is likely to produce a nephritis that will, apparently, recover entirely in the course of a year if the patient is taken away from his work. I had a case where the patient was almost ready to die. He was a blacksmith and was always inhaling the fumes of prussiate of potassium. He has recovered, although he was very edematous and the urine was characteristic of nephritis. There has not been a recurrence of the trouble.

Dr. E. J. Brown, Decatur: The question of prognosis in Bright's disease is of interest to me, and in this connection I desire to mention one case occurring 20 years ago. The late Dr. Purdy was with her at that time for twenty-four hours during an attack of uremia. She is now in excellent condition. She has been dieting and living carefully for 20 years and is in fair condition today.

As to the dechloridation treatment of dropsy. I have been employing that treatment for the past year in all cases of dropsy, whether of nephritic or cardiac origin, with most excellent results. It is somewhat difficult to deprive a patient of all salt. I use unsalted butter, or wash the salted butter; have all bread baked without salt, but as the dropsy lessens, I allow them some salt.

I am glad to have Dr. Elliott tell us how much salt we can use. There is nothing that has given me so much pleasure and satisfaction in the treatment of nephritis as this method of salt reduction.

Dr. J. R. Pennington, Chicago: Dr. Elliott made mention of one point on which I wish to speak—the use of a tube for colonic flushing. I use a tube that has a return flow. If you want to get the full effect of irrigation, and want the water at a certain temperature, you fill the bowel and empty it again. In order to do that, you must let the fluid flow in, break the current, and allow the fluid to flow out again.

The double flow current will not give as much satisfaction. That can be demonstrated very easily if you will take the trouble and experiment with a couple of rubber tubes. Pass them into a bottle, and let the water flow in and out. By using colored solutions, you will find that the water, in time, will distend the colon above. It does not empty the bowel; it does not produce peristalsis, and you do not get the desired effect from the irrigation.

For colonic lavage, I use a self retaining tube provided with only one opening, and I have found it extremely satisfactory.

Dr. Wm. J. Butler, Chicago: In speaking of the diagnosis of chronic nephritis, I believe Dr. Mix stated that the urine might be of any specific gravity, up to 1020. I presume we have all experienced the same thing with

chronic nephritis in the presence of an acute exacerbation or a failing heart, but I do not think that we should discard the diagnostic value of a low specific gravity of urine in chronic nephritis.

The cardio-vascular changes in chronic nephritis are not pathognomic, because there is a cardio-vascular condition which sometimes occurs, although rarely associated with a small perithelioma of the suprarenal capsule that stimulates the cardio-vascular conditions of chronic nephritis. I recall a case in point. A few years ago I saw a child of ten or eleven years of age who had an enormous left heart, with high arterial tension, but no valvular lesion. Post mortem, no affection of the kidney; or adherent pericardium was found, but a small perithelioma existed which the pathologist gave as an explanation of the cardiac condition, because there was no old myocarditis or adherent pericardium that might have accounted for the condition, and no valvular lesion or nephritis. In a case of adherent pericardium, the result of an old pericarditis, in a child, it is not unusual to see a large left heart.

It is not an uncommon thing to see a so-called iodio-pathic hypertrophy of the heart in a child, whose arterial tension may have been quite high, and post mortem find an old myocarditis resulting from some past acute infection or an adherent pericardium, which resulted in an enlargement of the left heart and, consequently, increased arterial tension.

However, the value of cardio-vascular changes, from a diagnostic standpoint, in chronic nephritis can in no way be lessened by the mention of above points. Still they do occur, and may result in very large left hearts and high arterial tension, a cardio-vascular condition not to be distinguished from that of chronic nephritis.

In regard to the diagnosis of uremic coma, while it may, at times, be a matter of indifference as suggested by the essayist whether we decide that the patient has a hemorrhage or uremic coma, the diagnosis does not often present serious difficulty, because in a patient in a state of coma, it is not a very difficult matter to determine that he had Bright's disease, nor to determine or exclude a hemiplegia, because in this case—(Time up; could not complete discussion.)

Dr. Schwarz (closing the discussion on his part:) With reference to the expectation of life, the cases accumulating show that patients have lived beyond the classical limit. Observations of that kind are common among my colleagues in Chicago.

Dr. Colburn, at a recent meeting of the Ophthalmological Society reported two patients that lived six years. There was no question that they had the typical albuminuric retinitis. **Dr. Young** reported that one lived six years. **Dr. Webster L. Fox** recently reported one that lived seven years, and **Dr. Dodd** reported one that lived three years. I had cited three cases, one that lived five years; one four and the third, three years.

With reference of the prognostic value of any of these signs in the old and the young, I would further emphasize the point I mentioned in my conclusions—the increased value of signs under fifty, and the greatly decreased value of signs over fifty.

Dr. Mix (closing the discussion): As the possibility of ferrocynaid of potassium being a cause of nephritis, I have no knowledge. We know, however, that people working in blacksmith shops often work in metals. We had in Mercy Hospital, Chicago, a brassworker, who had a very characteristic case of parenchymatous nephritis, apparently due to poisoning by brass, a blackened line at the edge of the gums being present. Possibly the blacksmith mentioned by the speaker did not get his nephritis from ferrocynaid of potassium.

As to the statements made by **Dr. Wm. J. Butler**, I have this to say, that I was merely trying to make the point that of the three diagnostic methods of getting at the existence of nephritis, the symptomatic method is the least valuable; the examination of the urine is next in value, but the most valuable of all is the physical examination of the patient.

Cases of adherent pericardium and of adrenal tumor are not very common, but they do not militate very largely against the value of cardio-vascular signs in arriving at a diagnosis of chronic nephritis.

As far as the differential diagnosis between hemiplegia and coma is concerned, unfortunately in fifty per cent of the cases being females, we are naturally limited by our inability to get the cremasteric reflex. **Babinski** has pointed out the best differential methods in these cases, which are of either getting the **Babinski** sign, or of demonstrating hypotonus on the suspected side. When a person is in coma, and the thigh is flexed on the abdomen, the knee can be forced against the shoulder on the paralyzed side. It cannot be done on the sound side.

The same is true of uremia. The **Babinski** reflex and the hypotonus sign give us a great deal better method of getting at the diagnosis than does the examination of the cremasteric reflex.

BRONCHOSCOPY FOR REMOVAL OF FOREIGN BODIES FROM THE LUNGS.*

BY E. FLETCHER INGALS, M. D., CHICAGO.

The discovery of the principle of bronchoscopy must be credited to **Desormeaux**, who perfected the urethroscope in 1853. **Kussmaul**, in 1868, used similar instruments and corresponding methods in the examination of the œsophagus, but for

bronchoscopy proper we are indebted to **Professor Gustav Killian**, of Freiburg, Germany, whose paper, read at the British Medical Association, in 1902, attracted the attention of laryngologists throughout the world.

In an article that I read before the American Laryngological Association, in June, 1904, which was published in the *Journal of the American Medical Association*, November 19, 1904, I gave a description of the instruments and a concise history of the operation that need not be repeated at this time; but for the benefit of those who did not see that article I will briefly call attention to the instruments and methods employed in this new and very valuable operation for removal of foreign bodies from the lungs. The operation is termed upper bronchoscopy when the instrument is introduced through the mouth and larynx; lower bronchoscopy when the bronchoscope is introduced through an opening made in the trachea. Upper bronchoscopy is much more difficult because of the difficulty in passing the bronchoscope through the glottis and somewhat more difficult because of the greater length of tube to be illuminated, and because of more trouble in turning the bronchoscope into the bronchus from the trachea, but it possesses the advantage of not requiring any wound in the trachea. A larger tube may be used in the trachea than can be passed through the larynx, but with lower bronchoscopy I think there is a temptation to use a bronchoscope of too large a calibre from which the stretching of the bronchi may be detrimental. In some instances I have found it very difficult to pass the bronchoscope through the larynx, and in any case where it was necessary to operate without an excellent light I should consider lower bronchoscopy more likely to be successful. Lower bronchoscopy necessitate a tracheotomy which is an added danger to the patient; indeed in one little patient, about 14 months old, from whose bronchus I removed a kernel of coffee, death occurred a few hours later apparently as the result of the shock, the major part of which was certainly from the tracheotomy, as the bron-

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

choscopy was short and easy. I think that there would also be more likelihood of pneumonia following a lower than an upper bronchoscopy.

The surgeon may be greatly aided in this operation when the foreign body is of metallic nature by first locating it with a good radiograph which will often prevent the necessity of examining both lungs and which may enable him to select an instrument of proper length.

I have found it beneficial in some instances to administer a full dose of atropine about an hour before the operation, for the purpose of limiting the amount of secretion in the lungs and, in cases where the patient's toleration of opiates is known, I believe that it would usually be desirable to give a medium sized dose of morphine or codeine at the same time for the purpose of rendering the mucous membrane less sensitive and thus permitting the operation to be done with a smaller amount of the general anæsthetic. From my experience I should say that it is much preferable to do the operation in a well equipped hospital, and a number of assistants are desirable in order to avoid delays; there should be one for the anæsthetic, one to hold the patient's head, one to assist with the lights and with the aspiration of secretions, two to assist with the swabs when the aspirator is not used, and one for emergencies. At least three of these should be physicians; the others might be nurses. The operation should be done if possible in a room that may be darkened if necessary. The patient should be placed upon a high table with the head hanging over the end directly in front of the operator, who is seated on a low stool that will bring his eye on a level with the trachea. Chloroform is the preferable anæsthetic, because it does not excite so much secretion from the respiratory mucous membranes and because with it there is less dan-

ger of a subsequent pneumonia than with ether. Again, it can be administered more readily in small quantities during a prolonged operation when the patient may not require to be profoundly anæsthetized. The Brophy or some other inhaler by which the anæsthetic may be administered through a small tube, after the patient has once been brought under its influence, is almost essential to a satisfactory operation. Cocaine or other local anæsthetic may also be advantageously employed for the purpose of rendering the mucous membranes less sensitive, thereby limiting the amount of chloroform. Some of the products of the suprarenal gland will be found beneficial in reducing the congestion of the mucous membranes, preventing bleeding, and acting as a heart stimulant. These may be applied on pledgets of cotton attached to the cotton carriers. The trachea and bronchial tubes may be illuminated by a Kirstein lamp or some similar instrument, or by a small lamp that can be introduced down nearly to the end of the bronchoscope or even beyond it. Kirstein's lamp may be employed either with a battery or with the ordinary lighting current controlled by a rheostat and a 32 candle power lamp. The storage or other batteries used for the Kirstein lamp are liable to give out during the operation and so prevent success and in most cases, especially where a small and long bronchoscope has to be used, the illumination is insufficient. The small lamp¹ that I have formerly spoken of as the No. 1 Chicago Electro-Appliance Company's lamp, but which will hereafter be referred to as the Hardy lamp No. 1 or No. 2, may be used either with a battery or better with the ordin-

¹ The firm that formerly made these lamps having passed into the hands of a receiver, it has been necessary to change the name. They can now be supplied by F. A. Hardy & Co. and other instrument dealers of Chicago under the new name. No. 1 is a flat lamp such as I have used. No. 2 is a round lamp that has a better fastening to the carrier.

ary lighting current, and a rheostat controlled by an 8 or 16 candle power (Fig. 1).

Whatever source of illumination is used, the operator should have at least one extra lamp and I have usually been provided with both the Kirstein and the small lamp for fear the light might give out. In two or three cases I should have been obliged to abandon the operation before its completion, excepting for this provision. A good gag is necessary to keep the mouth open and for

used are, respectively, 13, 23 and 28 c.m. in length. The first of these might be used in lower bronchoscopy or for examining the larynx, and the longest in a child 4 or 5 years of age for exploration of the bronchi. The next sized tubes are 9 m.m. in diameter, the shortest of which is 18 c.m.; the middle one 25 c.m. and the longest 35 c.m. in length. These latter may be used for children over 10 or 12 years of age and for adults. In an adult the longest one would be required to ex-

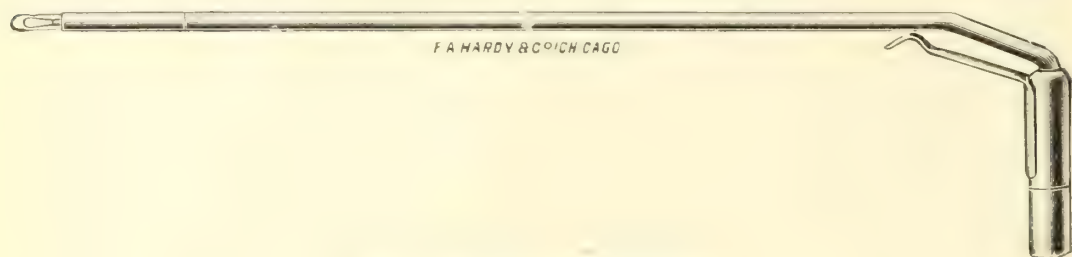


FIG. 1—Hardy No. 1 Lamp and Carrier.

this purpose the Allingham is the best that I have found.

Killian recommends that the bronchoscope be introduced under illumination by Kirstein's lamp. Some operators employ in this operation the Kirstein autoscope, or a speculum for drawing the tongue forward. I have employed both of these at times to advantage but in some instances I have found the introduction very difficult in spite of the speculum and the illumination.

amine the bronchi. They are also used in the œsophagus. Killian's small set also contains an œsophagoscope 11 m.m. in diameter and 19 c.m. in length, Killian also recommends short tubes of varying forms for the larynx and longer tubes for the œsophagus. He also has a tube with a large oval fenestrum on the side to permit of respiration by the unaffected lung when the end of the bronchoscope has been passed into the obstructed bronchus. In my first operation with a bronchoscope

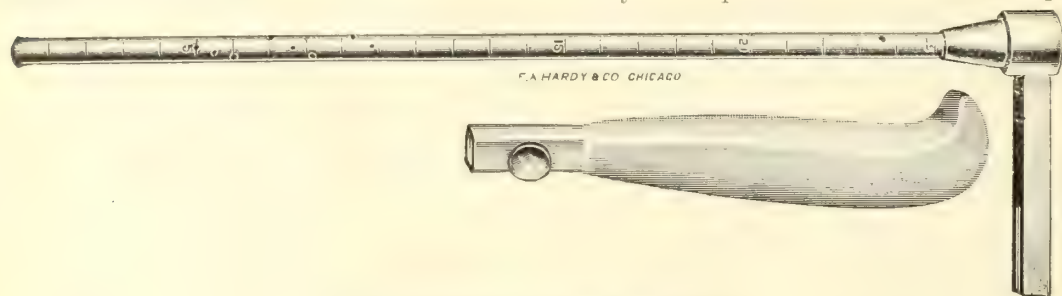


FIG. 2—Killian's Bronchoscope and Handle.

Killian's bronchoscope consists of a tube which can be attached firmly to a large handle whereby it may be readily manipulated. These tubes vary in size and length according to the patient to be operated upon. Killian's smallest tubes, which are for infants and young children, have an inside diameter of 7 m.m. and the three tubes ordinarily

having no perforations on the side, the patient had great difficulty in breathing. I therefore had made a number of small holes 2 m.m. in diameter running spirally around the tube from 5 to 10 c.m. above the distal end of the bronchoscope (Fig. 2). Later I had these made in all of my bronchoscopes and I have found them of great service. The

small size of the openings prevents any protrusion of mucous membrane through them. They do not appreciably weaken the instrument and yet they allow of free respiration. It seems to me that they are much preferable to a single large opening.

Killian's tube forceps for the removal of foreign bodies is an excellent instrument. He has two different styles of handles for this instrument, either of which is good. He also has instruments for securing different kinds of bodies. Among them is a hook with

part of the outfit has not worked satisfactorily with me, because of insufficient aspirating power in the rubber bulb.

In one of my early cases of bronchoscopy where the patient had suffered from the effects of a collar button in the lung for over a year, an abscess had formed and a large amount of pus was being expectorated daily. In that instance the operation was greatly prolonged by the difficulty in keeping the bronchoscope swabbed out and the pus was coughed all over me, being kept out of my



FIG. 3—*a.* Killian's Hooklet; *b.* Probe bent at obtuse angle; *c.* Handle.

a saw edge and a small hooklet; the latter, however, is dangerous if passed into a small bronchus, as the end of it may catch in one of the branches and cause injury to the lung in removal. In place of this I have made a small probe with about 4 m.m. of the end bent at an obtuse angle from the stem (*b.* Fig. 3). I have found this useful in searching for foreign bodies, and it has such an angle that it cannot become caught in a small bronchus.

An œsophagoscope for examining the lower parts of the œsophagus should be at

eyes only by a pane of glass held between my face and the bronchoscope. In that instance I spent nine tenths of the time in swabbing out the tube and then could not have more than a second or two in which to inspect the part before it would again be filled with pus. As a result of this experience I secured a small aspirating pump (the Chevaliers Jackson pneumatic masseur pump) to be run by an electric motor that I switched on by my foot, and I had made a small aspirating tube with an inside diameter of only 2 m.m. which I attached to a rubber tube connecting with

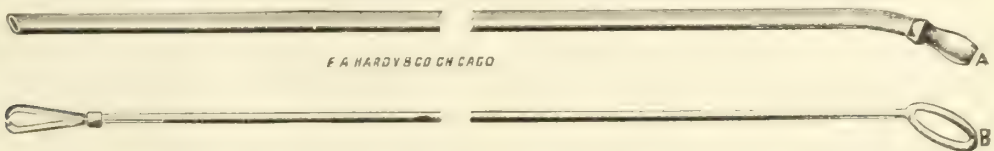


FIG. 4—*a.* Aspirating Tube; *b.* Cotton Carrier: the small end is split and is closed by a sliding ring.

least 45 c.m. in length. I have designed one of an ovoid section 13 by 15 m.m. in diameter that I think will be useful. I shall also have one made of somewhat smaller dimensions. Killian's small set contains also four cotton carriers (Fig. 4), but if the operator is to rely upon swabbing out the bronchi he will need at least eight or ten, so that the nurse may have them constantly in readiness. The set contains also an aspirating bottle that will hold about three ounces, an aspirating rubber bulb, and two flattened aspirating tubes for pumping out the secretions. This

an aspirator bottle (*A*, Fig. 4). This was so small that it did not interfere seriously with the illumination. In subsequent operations I found this of very great value, as it enabled me to remove the secretions without the irritation that would have been caused by a swab and to remove them so rapidly that I could inspect the parts readily, and by passing it up and down the bronchoscope I could readily pump out any secretions that had been coughed up into the tube. This aspirator tube I also use as a probe in searching for foreign bodies.

Magnets have been used for extracting iron or steel bodies. For this purpose one end of a wire cable may be made to adhere to a strong magnet and the other end can be passed through the bronchoscope down into the bronchi of small calibre. I have not used this method, but think it would be valuable in some cases.

I have in some instances found great difficulty in introducing the bronchoscope into the larynx, sometimes having passed it several times into the œsophagus before I finally got it into the air passages. The reason for this is that the head has to be bent over far backward to bring it in a position where a straight tube can enter the larynx and trachea, and the base of the tongue is so

beyond its end, but I was not successful in this effort, because the position of the head necessary for the introduction of a long straight tube rendered it impossible for me to locate the larynx perfectly with my index finger. I have usually had very little difficulty in introducing the O'Dwyer intubation tubes, and therefore I have decided to have an instrument made which I could introduce in a similar manner that would enable me to get a guide easily into the larynx. I had an obturator made of soft copper, 5.5 m.m. in diameter and 26 c.m. in length exclusive of the handle (B, Fig. 5). I had made also a spiral steel tube to slip over this instrument so that it would extend from the handle to within 5 m.m. of the distal end of the

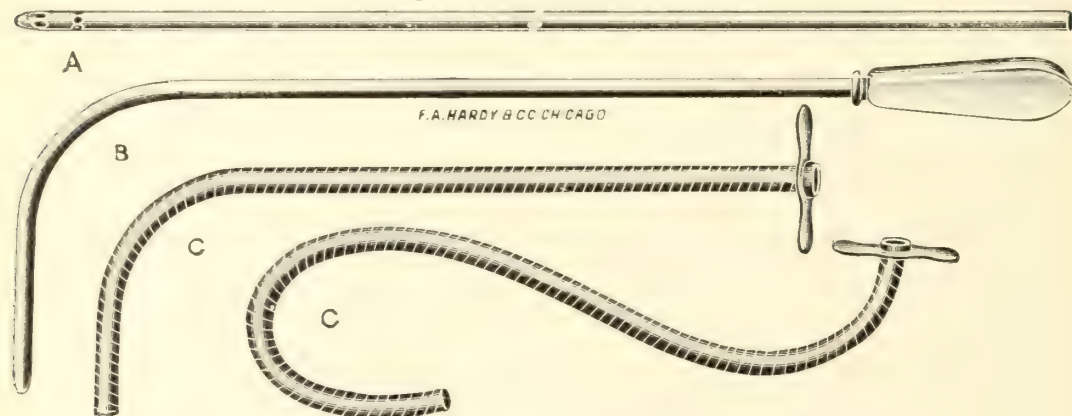


FIG. 5—*a.* Hollow Steel Guide; *b.* Obturator and Introducer; *c c.* Spiral Steel Tube.

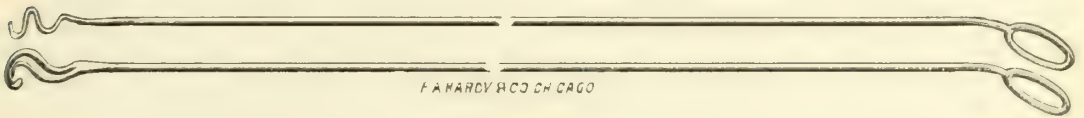
thick that a good deal of force is required to lift it out of the way. Again, the fauces are apt to be filled with secretions and even when a good illumination is obtained by the Kirstein lamp, the parts are but dimly lighted when a long bronchoscope is being used. During a recent operation I had such great difficulty in getting the tube into the trachea that I hesitated to remove it when I had grasped the foreign body in such a way that I might possibly have secured it by removing both together. In this case the introduction of the bronchoscope into the trachea took about three-quarters of an hour. I attempted to introduce it as I would an intubation tube, having first passed through it a soft catheter which extended 2 or 3 c.m.

obturator. In using these instruments I passed the spiral steel tube over the obturator and then introduced them as I would an intubation tube. When the end had passed the glottis I slipped off the spiral tube at the same time that I withdrew the obturator. I also had made a hollow steel guide, the end of which was ovoid, and provided several openings to allow easy respiration (A, Fig. 5). This instrument was 45 cm. in length and 5.5 mm. in its external diameter. When the end of the spiral tube has passed into the trachea and the obturator withdrawn, the patient's head is bent far backward and this steel guide is passed through the spiral tube. The spiral tube is then withdrawn and a bronchoscope slipped

down over the guide unerringly into the trachea. In my next operation I used these instruments and had the satisfaction of passing the bronchoscope very promptly and easily; so easily, indeed, that I had no hesitation in withdrawing it three or four times during the course of the operation. After the end of the bronchoscope has passed a couple of inches below the larynx, the operator, watching continuously, should pass it slowly down the trachea until he finds the bifurcation, then bending the patient's head a little to the opposite side, carry it off into the bronchus of the affected lung. In young children even, the bronchi and trachea contract with expiration and expand with inspiration and, in some instances at least, some of the branches completely collapse so that there may be great difficulty in inspecting them and small foreign bodies may be completely hidden. When the end of the instrument has entered the bronchus,

diately over the end of the bronchoscope so that only a very small area can be inspected at one time, and it is not possible to make a systematic inspection of the surface of a cavity because of the continuous movements of the lungs.

Owing to the difficulties that I have experienced in bringing pins into view or in getting them into the bronchoscope after I had found them, I had made two small instruments that I have named pin finders, one end of which is something like a blunt cork screw (Fig. 6). These are adapted to bronchi of different sizes. One of these can be passed into a bronchus and carefully turned round and round as it is passed gently downward until, if a foreign body is present, it will be brought into the centre of the spiral, then the bronchoscope can be pushed gently down over the end of it and the pin finder removed. The bronchoscope is then again illuminated and the foreign



F. A. MARCH, M.D., CHICAGO

FIG. 6—Pin Finders.

the secretions must be removed either by absorbent cotton swabs or by the aspirator pump, and a bright light will be needed for thorough inspection. I have sometimes passed the small lamp 1 or 2 cm. beyond the bronchoscope, though usually I keep it about $1\frac{1}{2}$ cm. within the instrument. If the foreign body is in a collapsed bronchus, or in a bronchus running at a considerable angle from the tube immediately exposed by the bronchoscope, it may be impossible to see it and thus a long inspection and frequent repetitions may be necessary, and there is a large chance for failure. When the foreign body is in a collapsed pulmonary cavity, the large area to be searched and the abundant secretions that are apt to be present will make the operation not only extremely difficult but very tedious. It should be understood that in a collapsed cavity or in a collapsed bronchus the soft tissues fold imme-

diately over the end of the bronchoscope so that only a very small area can be inspected at one time, and it is not possible to make a systematic inspection of the surface of a cavity because of the continuous movements of the lungs. Owing to the difficulties that I have experienced in bringing pins into view or in getting them into the bronchoscope after I had found them, I had made two small instruments that I have named pin finders, one end of which is something like a blunt cork screw (Fig. 6). These are adapted to bronchi of different sizes. One of these can be passed into a bronchus and carefully turned round and round as it is passed gently downward until, if a foreign body is present, it will be brought into the centre of the spiral, then the bronchoscope can be pushed gently down over the end of it and the pin finder removed. The bronchoscope is then again illuminated and the foreign

that in some operations I have caught the pin many times before I have been able to get the point into the bronchoscope. In a recent operation upon a boy of 13 years, the pin finder served an excellent purpose in enabling me to bring the pin into the bronchoscope, and I anticipate that it will greatly facilitate operations for bodies of this kind. When the foreign body has been seized by the forceps, it will not infrequently be found too large to be withdrawn through the bronchoscope, when both the instrument and the foreign body should be withdrawn together. In some operations I have hesitated to do this because of the great difficulty in getting the bronchoscope into the trachea.

Most of the twelve bronchoscopies that I have done have been quite prolonged; in several cases the patient having been under the anæsthetic from an hour and a half to two hours. I think it important to keep careful watch of the pulse and the amount of anæsthetic that is used and to discontinue the operation even before the foreign body has been found if the patient's condition is not good. It would be better to repeat it than to keep him too long under the anæsthetic. The after treatment should be much the same as after a tracheotomy, though where upper bronchoscopy has been done, if the operation has not been too prolonged and if no injury has been done in removing the foreign body, no treatment whatever will be required.

Up to June, 1904, reports indicated that bronchoscopy had been done in 34 cases with successful removal of foreign bodies 19 times. Killian speaks of the operation as perfectly safe, but I think that two of the patients died within a day or two afterward. There have been several cases that have not been fully reported, and it is more than probable that some of them proved fatal. I apprehend that failure to find the body will frequently occur when it is lodged in an abscess cavity, the inner walls of which are very irregular and likely to be bathed in pus. It is also probable that small bodies will not infrequently become lodged in tubes

so small that the bronchoscope cannot be made to enter, and that these tubes being collapsible will completely hide them. Notwithstanding all of the difficulties, this appears to me a most important operation, because the dangers attending it are no greater than those encountered in removing foreign bodies in the ordinary way through the trachea, and because when foreign bodies have passed into the bronchi or their branches, it is often impossible to reach them in the old way, and a transthoracic bronchotomy is almost sure to be fatal. For these reasons I can heartily commend the operation, though I apprehend that, as a rule, no one excepting an expert laryngologist will have the patience and skill requisite for success. To illustrate the operation, I have to record two recent cases that have not heretofore been reported:

Case I.—F. E., male, aged 13 years, was sent to me at the Presbyterian Hospital, January 27th, by Dr. E. S. Detweiler, of La Grange, Ill., with the following history: The day before, while playing with a blow gun, the patient had wrapped a quantity of yarn about an ordinary pin and had attempted to blow it through the tube, but it stuck in the end and upon attempting to take a deep inspiration so as to force it out, he drew the pin into his trachea, from which it passed speedily into the left bronchus. He was a bright lad, well nourished and did not feel very bad from the accident. There was only a little cough when I saw him. Upon examination I found the respiratory movements of the left side quite deficient, but there was no dullness upon percussion; a few bronchial rales could be heard over the left lung, and the vesicular murmur all over the left lung was about one-third as loud as upon the right side. A radiograph taken at the hospital showed the pin clearly upon the left side, apparently in the main bronchus. At 4:30 o'clock in the afternoon, assisted by Dr. McDonald, Dr. Irons and Dr. Friedberg, I gave the patient chloroform and introduced a bronchoscope to remove the foreign body. I had a good deal of difficulty in introduc-

ing the bronchoscope, which first went into the œsophagus and unexpectedly a sufficient amount of air was expelled through it to lead me to think it was in the trachea. After several attempts I finally got it into the trachea, but the rings of this tube could not be seen and, as it was passed down to the bifurcation, the left bronchus was so contracted that it was difficult to find. The bronchi of both sides regularly expanded and contracted during inspiration and expiration so that at the completion of expiration the calibre was not more than half what it was during inspiration. In this case the secretions were withdrawn with the electric aspirator pump so that I was not obliged to use the cotton swabs at all; thus I avoided much irritation of the parts, but, owing to the contraction of the bronchus, I was unable to see more than a small part of the yarn that was wrapped about the pin, and I was not able to see the point of the pin at all during the early part of the operation, although I thought that I got a glimpse of it once after I had broken my forceps. Although I could not see the pin, I could readily grasp it firmly with the forceps, and this I did many times, but I could not get the end of it into the bronchoscope, because the moment I made traction upon it the point caught in the bronchial wall. I tried also to catch it with Killian's hooklet (Fig. 3), but traction with that had a similar effect, and I could not get the point into the tube. Finding that I could not see the pin, I attempted to remove the yarn that had been wrapped about it and succeeded in taking away bit by bit quite a large amount, so that I supposed I had removed practically all of it. At this time my forceps broke, and as my extra pair of forceps was being put together it also broke, so that the operation had to be abandoned. During this operation the minute electric lamp and about an inch of metal to which it was fastened became detached from the carrier and fell into the bronchus and I was not able to recover it. I had the patient placed in a private room with directions that the air be kept moist

and at a temperature of 80° F. The next morning the boy was reported to be very comfortable, with a pulse of 115; respiration, 28; temperature, 101°. Owing to the difficulty in this and other cases of bringing the pin into the bronchoscope, I devised the pin finder referred to (Fig. 6), which was something after the form of the tool formerly used in extracting wads from muzzle loading guns, though the end was blunt and the second turn from the end was considerably smaller than the one at the end, with the design of forcing the pin to the centre. On January 29th the pulse was 120 in the morning and 108 at midnight; respiration 36 in the morning and 28 at midnight; temperature 102.4° in the morning, 102.6° at noon and 101.4° at midnight. The boy complained of considerable soreness in the front part of the left lateral half of the chest. The respiratory murmur was considerably clearer over the lung than before. Another radiograph was taken which showed the pin with the head downward, apparently in one of the first branches of the main bronchus and the electric lamp near it apparently in a different branch. A couple of days afterward I made several attempts to shake the lamp out of the bronchus by the Padley method, which consists principally of seating the patient on a bench with his knees hooked over the upper end, which is elevated about two feet above the lower end, and having the patient draw a deep breath, at the same time throwing him suddenly backward with the head far below the body and having him cough. I did not succeed in recovering the lamp in this way, but on February 3rd other radiographs were taken and no shadow of the lamp could be seen, therefore it was thought that possibly it had been coughed out and swallowed. At 4.30 p. m. of February 3rd, with the same assistants, I again gave the boy chloroform and applied a small quantity of a ten per cent. solution of cocaine with a 1 to 2,000 solution of adrenalin chloride to the larynx three or four times as he was being brought into the anæsthetic. Later on, the same application was made two or three times to

the bronchus by means of a cotton swab. This time I had even greater difficulty than before in introducing the bronchoscope through the larynx, and it went several times into the œsophagus. To facilitate its introduction, I used as an obturator (or guide) a soft rubber catheter, with a copper wire in it which I passed through, and 2 or 3 cm. beyond the end of the bronchoscope, the wire enabling me to bend the guide to any desired angle. I had hoped by this means to introduce the bronchoscope readily, but I found it was a very different matter to introduce a straight tube into the larynx from what it was to introduce an intubation tube. The principal reason for this was that it was difficult for me to reach the boy's larynx with the index finger of my left hand in the position necessary to introduce the straight bronchoscope. I also tried the modified Kirsten autoscope, and finally with this instrument succeeded in getting the bronchoscope into the larynx. Subsequently I had some delay from passing the bronchoscope accidentally into the right bronchus in consequence of the boy's head having been allowed to move while the tube was being passed down. The marked contraction of the bronchi much of the time caused the end of the bronchoscope to be completely occluded, just as a urethroscope is in passing, so that it was very easy to get into the wrong tube; however, with the bronchoscope in the right main bronchus, I could readily see the openings of several branches of this tube, although I was unable to see any of the branches of the left bronchus because of their collapse. It was a considerable time before I was able to discover the foreign body. The mucous membrane of the left bronchus and its branches were considerably swollen and the tubes were almost collapsed. After the preceding operation I had my electric lamps firmly soldered to the carriers (the one that I lost had been soldered but evidently imperfectly) and I passed one of these several times 2 or 3 cm. beyond the end of the bronchoscope, but still was unable to see the foreign body; finally, however, I discovered the yarn when the

bronchoscope had been crowded down 32 cm. beyond the teeth, a distance that at the time seemed greater than necessary in a boy of that size.

I was still unable to see anything of the pin, therefore I introduced the pin finder, and passed it 2 or 3 cm. beyond the end of the bronchoscope. By turning it gently to the right I soon felt that I had engaged the foreign body, but upon gentle traction it seemed that the end of it had caught in the opening of a branching bronchus. I then turned it slightly to the left, by which act it was readily disengaged from the bronchus. I then pushed the bronchoscope down until I thought it had enveloped the upper part of the spiral and then by very gentle traction I soon had the satisfaction of feeling that the foreign body was moving. I drew it out through the bronchoscope and found that I had the pin in the middle of a large mass of dark yarn, from which its point projected only about 5 mm. Subsequently, I made a very careful and prolonged search for the lamp, but could find nothing; then with the patient still under the anæsthetic, I depressed his head far below the body and shook him very thoroughly several times, hoping if the lamp was still in the lung that it might be shaken out, but nothing was found. As the patient had already been under the operation for two hours and under the operation for a little over one hour, I thought best to desist. At this time the pulse was only 108 and the patient was in very good condition. The next morning the patient was reported to me to be in fine condition, and the pulse, temperature and respiration appear from the records to have been normal. Two or three radiographs were taken afterward, but no shadow could be found of any foreign body. Unfortunately, I had omitted to have the stools carefully watched, but, as all the symptoms of a foreign body disappeared and the boy soon became perfectly well, we concluded that the lamp must have been shaken into the throat either at the first time I tried the Padley method or at the close of the bronchoscopy, and that it had been swal-

lowed. Six weeks afterward the father reported to me that the boy was perfectly well, having had no symptoms of trouble after leaving the hospital two or three days after the final operation.

I examined the patient carefully on April 29th and found no symptoms or signs of any trouble with the lungs, and subsequently Dr. Howard, of the Presbyterian Hospital, had two radiographs taken, neither of which showed any foreign body, so I feel morally certain that the lamp was shaken out as already suggested.

Case II.—S. M., a girl, 5 years of age, was brought to me at the Presbyterian Hospital by Dr. I. J. K. Golden, April 13th, with a history of having inhaled a piece of metal from a suspender fastening, two months previously, since which time there had been persistent cough, and recently a large amount of purulent expectoration. For three days the child had been unable to lie down and had suffered a great deal of pain in the right side near the sternum. The patient was very weak and pale, and there was some œdema of the extremities. Upon admission the pulse was rapid and full, the voice husky and respiration labored. The temperature ran from normal in the morning up to above 100° in the afternoon.

Upon examination of the chest, palpation showed increased fremitus over the right side, and, upon percussion, dullness over the entire right lung. Upon auscultation on that side the vesicular murmur had disappeared and in its place was bronchial and bronchovesicular breathing with numerous large and small moist râles. The left side was normal; the heart was in a normal position and the sounds were natural; the abdominal organs were normal; urine negative; blood 3,200,000 reds, 28,000 whites, 65 per cent. hæmoglobin. A radiograph taken at the hospital showed a piece of metal which subsequently proved to measure 2.5 cm. long by 6 mm. in width located in one of the branches of the right bronchus behind the anterior end of the fifth rib. During the forenoon of the day upon which the

child was admitted it appeared so ill that an operation seemed extremely hazardous, but we finally determined that an immediate operation afforded the best chance of recovery, although I very much feared a fatal issue. At 4.30 p. m., aided by Dr. Waugh, Dr. Irons and Dr. Howard, I gave the child chloroform and introduced a bronchoscope 7 mm. in diameter. There was a great deal of purulent expectoration which interfered with inspection of the parts, and complete collapse of the bronchi on the right side added greatly to the difficulties. I searched a long time with an instrument, 23 cm. in length, but failed to find the foreign body, not realizing that it was beyond the reach of the tube. I then introduced an instrument of the same kind, 28 cm. long, and soon discovered the metal. I grasped this with the Killian tube forceps, but it was too large to be withdrawn through the tube, therefore the bronchoscope and the foreign body were withdrawn together. The foreign body proved to be a brass fixture of a suspender, of the width and length already stated, varying in thickness from 1 to 3 mm., and containing at its lower part some of the cotton webbing of the suspender. The operation was greatly facilitated by the introducer already described and by the aspirator pump and tube which were used in clearing the air passages of pus. Although the child was kept under chloroform for about one and a half hours, during most of the time the anæsthetic was not at all profound. The principal cause for the prolonged search was that I failed to realize the distance from the teeth to the branch of the bronchus, and it was only when we had again examined the radiograph and found that the foreign body was under the fifth rib, and then measured from the teeth to the fifth rib that I realized that a bronchoscope 28 cm. in length was needed.

About an hour after the operation, the pulse was 120, respiration 40 and temperature 100° . The next morning the conditions were practically normal, but by evening the respiration was 40, pulse 140 and temperature 99.8° . An examination of the chest

showed absolute consolidation of the right lung, but already the expectoration was less and the child had been able to lie down during the night. In general, the child steadily and comparatively rapidly improved, but the pulse, respiration and temperature rose until at the worst, about two days after the operation, the pulse was 140; respiration, 60; temperature, 103°; subsequently the temperature fell nearly to normal in the morning, but rose in the afternoon to 102° the first day, 101° the second and 100° the third day. The child remained in the hospital six days, and at noon the day it was removed, the pulse was 120; respiration, 40; temperature, 100°. The lung was still consolidated, but there was practically no cough or expectoration. The child was doing well and resting well. The friends insisted upon removing her from the hospital, although the lung was still consolidated.

34 Washington Street.

Discussion.

Dr. Jacob Frank, Chicago: Mr. President—I would like to ask Dr. Ingals if the troublesome secretions he speaks about came from the mucous membrane of the bronchi, or whether he thinks they came from the mouth and ran down along the tube? I think the trouble is probably due to the secretions that run from the mouth alongside of the tube into the trachea. If this is the cause, I would suggest that the fauces be packed with gauze or cotton, and in that way the trachea can be kept perfectly dry. I have done this in operations of the mouth, giving the anesthetic, and passing tubes through the nostrils to the epiglottis, and packing off the entire fauces. In this way keeping the tract perfectly dry and kept the secretions from running down into the trachea.

Dr. E. Fletcher Ingals, Chicago (closing the discussion): While the secretions from the mouth are annoying until after the bronchoscope is introduced, I do not think that they interfere with inspection. Usually the bronchoscope fills the glottis so tightly that I hardly think the secretions would run down into the trachea, but this is almost surely prevented by the position of the patient on the back with hanging head.

Diagnosing His Case.

"I can't seem to keep my head above water,"

"The trouble with you is you're always too busy keeping your nose above whisky."—Hous-
ton Post.

Chicago Items.

The engagement of Dr. Alfred Bein and Miss Annette Grossman of 1309 Milwaukee avenue, Chicago, is announced.

Dr. Hubert Shatece, of 421 Cleveland avenue, Chicago, was recently elected President of the Catholic Military Federation of America.

Dr. J. B. Miller and wife of 2690 West Chicago Avenue, Chicago, visited relatives in Sangamon County the early part of October.

Mr. and Mrs. Louis Benjamin of 4111 Grand Boulevard, Chicago, announce the engagement of their daughter Blanche to Dr. Moses Eisenstadt.

Dr. D. W. Craig of 93 Sigel Street, Chicago, has removed to Sioux City, South Dakota.

Dr. H. O. Bates, a former resident of Chicago for twenty years, has located in Long Beach, California. He, with other Long Beach physicians, is erecting a \$40,000 hospital with all modern equipments in a beautiful location on the ocean beach.

Parents in South Chicago were recently accused of insuring their children instead of providing precautions against the disease. Health Commissioner E. R. Whalen sent three inspectors, Drs. H. M. Richter, Rosa Engelman and L. H. Mettler, to investigate this matter.

In connection with the construction of its proposed new hospital, the Chicago Polyclinic has given a trust deed to the Northern Trust Company, to secure a bond issue of \$300,000. The bonds are of the denomination of \$500, mature July 1, 1935, and bear 4 per cent. interest. The property at the southeast corner of Oak and LaSalle streets, 150x120 feet, and 50x130 feet in Chicago avenue, 112 feet east of Franklin street, is given as security.

Dr. W. E. Quine of Chicago, at the meeting of the Federation of Women's Club of Illinois recently held at Joliet, spoke on the preventability and curability of pulmonary tuberculosis and the duty of the State towards consumptives. So vivid was his description that a mild panic was created in the audience. It was described by a newspaper correspondent as follows: "As the story of the stricken and dying was told the club women began to leave their seats in the convention hall and seek the fresh air. One delegate fainted and was carried out. A cry to have the windows opened was raised. Dr. Quine told his audience that the germs might be lurking under the seats on which they sat and thriving on the dust at their feet. A mouse could not have caused greater uneasiness. Skirts were picked up from the floor and a demand for fresh air again was made. The windows were thrown open. Dr. Quine concluded his address by calling upon a Rockefeller, a Carnegie, a Pearsons, a Phoebe Hearst or a Helen Gould to come forward and build hospitals and colonies for consumptives."

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

NOVEMBER, 1905.

NEXT ANNUAL SESSION, SPRINGFIELD, MAY 17, 18, 19, 1906.

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HEALTH AND PLEASURE RESORTS OF THE WEST—COLORADO SPRINGS.

A second visit was made to Colorado Springs during the past season—the first having been made some thirteen years before. A remarkable change was found in the attitude of the inhabitants towards the tourists.

Formerly outrageous prices were charged and scant courtesy given. Now we find the prices reasonable and every one anxious to please. It seems that for a number of years the visitor was only considered for the money that could be extracted from his purse until finally the resort found itself being deserted. For several years, notably 1904, the visitors

were few in number. We hope the lesson has been well learned for we believe that no resort in America offers greater attractions. It will be necessary to brighten up many of the hotels in Manitou for they are quite shabby in appearance. The cities should also regulate the price of carriages and protect the invalid and tourist from overcharges in every way. One of the instances of extortion is the charge of one-half dollar to visit the South Cheyenne Canyon. This beautiful valley is worthy a visit and it is nicely kept but twenty-five cents would certainly pay all expenses and leave a handsome profit.

For many years Colorado Springs was the Mecca of consumptives, "lungers," as they are called. Many pitiful cases are yet to be seen in the streets but not nearly so many as in the 90's. Home physicians are probably learning to keep the bad cases among relatives and only send those in the early stages of the disease.

Several hundred consumptives reach this resort each month. We were told by our old friend, Dr. R. W. Reasoner formerly of Morrisonville, Ill., that the hack drivers are able to tell a consumptive on his arrival because his clothes are always too large for him. One of the hotel proprietors wisely says when a "lunger" crosses his legs and *both feet touch the ground*, get him home as quick as you can for he will not last long.

Quacks are numerous in Colorado Springs and by means of inhalers, vaporizers, electric appliances, etc., bleed the victim until his money is gone and then they hurry him home with the opinion that the altitude is too high for his case.

A number of hospitals and camps for consumptives are maintained around Colorado Springs and the disease in these institutions is treated along modern scientific lines with good results in cases adapted to the altitude. Dr. Watterson after a years experience in Colorado, gives some valuable advice in another column of our Journal this month. It is well worth reading. It is certainly true that great discretion should be exercised in sending consumptives to Colorado, away from home ties but for certain cases it undoubtedly offers ideal conditions.

PROGRESS OF OTTAWA SANITORIUM.

The crusade against tuberculosis in this State which was launched at the Bloomington meeting in 1904, has been remarkably

successful. In no state of the Union has so much interest been aroused and practical work done, and all as a result of the very comprehensive plans and intelligent direction of medical men. The work in most of the states has been of a very desultory character. In our State it has been systematic and well directed. The medical profession are very properly leading this crusade and have set in operation the many forces which have very quickly placed Illinois in the front in this beneficent cause. No one agency has contributed more largely to the success of the movement than the Ottawa Tent Colony. The committee in charge have demonstrated beyond doubt that tuberculosis can be cured in this State quite as effectively as elsewhere.

It was hoped and expected that the Ottawa Tent Colony would be the nucleus of a charitable institution. The action of the legislature last winter has made this impossible and thus far men of means have failed to come forward with the necessary funds for its support on a charitable basis. This has made it necessary to conduct it for the present at least as a private enterprise. In order to meet the demands of the situation three classes of institutions are necessary; the strictly charitable, the semi-charitable, and the private sanatoria. Inasmuch as the chief value of these sanatoria is educational it is perhaps more fortunate than otherwise that the Ottawa Tent Colony must be conducted for a time at least as a private enterprise, for the reason that it leaves its direction absolutely in the hands of medical men who are familiar with the situation and have made a special study of climatic and other conditions which place them in a position to give more intelligent direction to the development of these institu-

tions than could possibly be done by a board of directors or trustees. Their work has attracted more than usual attention throughout the country. Not alone because it has been demonstrated that tuberculosis can be cured in this climate, but they have evolved cheaper and more scientific methods for carrying out the modern treatment of pulmonary tuberculosis than has been done elsewhere. Already their methods have been accepted as standard as is attested by the fact that in a letter from the Secretary of the American Tuberculosis Exhibition which is to be held in New York City, December first, the Secretary says, "The committee is particularly anxious to have the Ottawa Tent Colony well represented in the exhibition for as you know it is being watched with great interest at present and cited very widely as an example of what can be done with a small expenditure of money. I express the sentiment of the committee in saying that we shall be very glad to provide space for practically anything you may care to send." There has been a too slavish adherence to the usual methods of hospital construction in the building of sanatoria for tuberculosis. This is not only unscientific but enormously expensive. Since the final analysis of the whole question is one of dollars and cents, cheaper methods must be evolved, or the whole system will be broken down as a result of the enormous expense attending its application. This unfortunate condition of affairs grows out of the fact that the construction of these sanatoria has been taken out of the hands of medical men entirely, and turned over to rich philanthropists, boards of directors, trustees, sentimentalists, etc., who have little or no conception of the scientific principles involved, or the most economical and efficient methods

for carrying them out. In view of these conditions it is fortunate that the managers of the Ottawa Tent Colony, who are experienced medical men, will be untrammelled in their efforts to cheapen and simplify methods of treatment. This is the kind of work most needed at this particular time.

Drs. Pettit and Butterfield of Ottawa have financed the institution and are making improvements which involve the expense of from thirty to thirty-five thousand dollars. These include an administration building, water works, first class bath house, infirmary, better equipped tents, beautifying of grounds, etc. The tedium of the treatment will be relieved by providing music, entertainments, lectures, launches, suitable amusements, reading matter, etc. When these improvements are completed which will be within a few weeks, the institution will provide first class accommodations at a very reasonable expense. The institution will be dedicated by proper exercises to which the medical profession, charitable workers and others interested will be very generally invited. Those who have the opportunity should make it their duty to respond to the invitation as in no other way can they so thoroughly familiarize themselves with the character of the work being done than by a visit. No amount of reading or explanation will be so valuable as a days visit.

While the institution must be supported by contributions from patients its statistical and educational value will be none the less to the profession and public. Indeed these will probably be of more value. We bespeak for the Ottawa Tent Colony the same generous support and cordial co-operation which it has hitherto received, and which as the pioneer institution, it so richly deserves.

ILLIOPOLIS HOSPITAL A HOAX.

Illioplis, Sangamon County Illinois, a beautiful village of about 1000 inhabitants was recently visited by a Dr. Louis DeClermont, (name not found in Polk's last directory) who gravely announced that he had been sent by the United States Government to secure ground on which to build a \$400,000 hospital for the army and navy. It was to be used for the treatment of stomach and bowel troubles and to accomodate 3,000 patients.

Notwithstanding the transparent unlikelihood of this story many citizens believed it and the prospective hospital was widely advertised in the lay and medical press. It was soon learned that the promoter "takes something and sees things." It is said he has disappeared.

THE SENN BANQUET.

All arrangements for the testimony of the banquet to be tendered Dr. Nicholas Senn, by the Medical Profession at the Auditorium Hotel, Chicago, Saturday evening, November 11 at 6:30 o'clock, have been completed. The reception will last from 6:30 to 7:30, at which hour the banquet will be served. A great many local societies have officially appointed delegates to represent them at this function, but all members of the profession are invited to be present.

Among the speakers will be Dr. W. J. Mayo, President-elect of the American Medical Association; Dr. John A. Witherspoon, Nashville, Tenn.; Dr. Jacob Lang, Milwaukee, Wis., and Mr. George R. Peck, Chicago.

A medal will be presented to Dr. Senn and a replica of the same to each guest. The tickets will be \$5 each, and may be secured from Dr. D. J. Dougherty, 100 State Street, Chicago.

THE ARMY MEDICAL SERVICE.

Whether we wish it to be so or not it is undoubtedly true that the status of the medical profession of any country is accurately reflected in medical services of its army and navy. Let a short sighted and niggardly policy prevail in the treatment of the surgeons in the services and very soon an inferior grade of men apply for appointment and the character of the whole medical corps is lowered. There is imminent danger to the medical corps of the U. S. army right now. Resignations are numerous, good material does not apply, the opportunities for promotion are few. Congress turns a deaf ear to appeals for relief and dissatisfaction among the members of the corps is prevalent. Last December we considered this subject quite fully and gave reasons why every member of the profession should take an interest in it and use every effort to bring about the needed relief. We urgently repeat our appeal at this time and we especially call on our members residing in Congressman Prince's and Cannon's district to communicate with these gentlemen and urge them to give this matter favorable consideration at the next session of congress. By reason of their high standing in congress they can do much to help the cause along if they will so to do. It will be largely our fault if some future war reveals such disgraceful sanitary conditions as prevailed at Chickamauga, Jacksonville and Camp Alger.

WHY THE NOSTRUMS FLOURISH.

Lay publications of late courageously have shown that the most wide-spread and most deadly branch of the nostrum traffic depends wholly for its prosperity upon its "criminal alliance" with the newspapers that publish the deceitful advertisements luring the innocent to ruin and that pocket their share of

the proceeds. The investigation of this secret and disguised traffic in alcohol has demonstrated that, with few exceptions, the newspapers which usually are so active in exposing "graft" by which others profit, are willing, silent, money-loving partners in the most hideous form of modern fraud. For what indeed can be worse than taking a money profit from misleading and deluding by false hopes of relief those who are ill and suffering, and finally leaving them ensnared in the soul-destroying meshes of narcotism.

The public is now learning the truth regarding the composition of these nostrums, and the federal revenue authorities are about to impose on them the liquor tax, which will lead the way for the state to do the same. It is to be hoped that the venal portion of the press will be compelled by enlightened public sentiment to withdraw from its profitable alliance. Sure it is that hypocrisy will no longer serve to hide the issue, and that raising other questions to becloud this one will not now serve any purpose. Once for all the newspapers, each and every one, must make its choice in the full assurance that the public is watching and is fully apprised of the true state of affairs. The newspapers constitute a great force for good or for evil, and this force is usually exerted on the right side. Proprietors however are after money with an avidity at least equal to that in any other vocation, and self-interest has made many of them blind to the evil part they have played in promoting clandestine intemperance. We hope, now that the issue is clearly laid, that the majority will promptly avail themselves of the opportunity gracefully to step into the correct position.

Correspondence.

FEES ARE PROMPTLY PAID IN WILL COUNTY.

Dear Sir: Under correspondence in the last issue of the Journal, I noticed complaint of Chicago practitioners that birth fees were not to be had. I wish to state that at Joliet where I have been located 4 years, I have always been paid for birth certificates on presentation of claim to the county treasurer without controversy.

Fraternally,

Louise T. Munch,
Joliet, Ill.

ANOTHER QUESTION ON ADVERTISING.

To the Editor: May I ask if advertising a new invention of merit puts a doctor under a ban? To explain, I have installed, at a cost of \$650.00 a machine that generates and fans oxygen through hydro-carbon oils. Have advertised in a respectful, conservative way the diseases it cures.

Now comes a typical old time advertiser with the well known flamboyant promises. To my surprise some, if not all of my associates put us both in the same class and tell me, as plainly as they can one belonging to the societies, that he "is deserving of the more respect because he comes out openly so that everybody may know that he is after the money." It seems to me that oxygen is not rightly appreciated or physicians of standing would not so express themselves. At any rate it is queer logic. May I ask the grand old profession at large if there is not a difference? Is there no means of convincing medical men that a doctor can advertise a thing of established merit in an honest straight forward way without professionally falling from grace? If not, it is enough to make an out-and-out advertiser (call him quack or whatever you please) of any man who advertises honestly and has informed himself so that he knows whereof he speaks.

As a medical friend of mine wrote me in answer to some questions along this line, "it all lays with a man's own conscience." But the conscience must be educated or they would still be throwing infants into the Ganges river. I believe that a properly educated conscience is a good guide, I have tried to so educate mine, and it is guide enough for me.

I feel hurt and wrongly regarded for "I have been a sister good and true" for fifteen years and still desire to maintain my pleasant relations with men whom I esteem very highly.

If anybody cares to discuss the subject and the Journal is willing I, for one, would like to hear from them pro or con.

Respectfully,

E. J. Carroll, M. D.

Pontiac, Ill.

THE AUTOMOBILE—ELECTRIC.

Dear Dr. Kreider: In response to your request for experience in use of automobile in practice, I may say that I have been using a Pope-Waverly electric runabout for the past five months, beginning May 1st.

The original cost of this years model of a machine like mine is eight hundred and fifty dollars, with fifty added for a top, if desired.

On a full charge it is supposed to run forty miles, but I have only once made that mileage under one charge. I usually run twenty to thirty miles before recharging, and do this two or three times a week, leaving the machine on charge three or four hours at a time, and during office hours, when I do not need it.

At the metre rate in Decatur, my highest monthly bill for power was seven dollars and twelve cents (\$7.12), with an average of six and a half. I pay three dollars a month for privilege of a stall in the garage, or auto-station, which is near my office.

I have had to buy one new tire casing,

at a cost of eighteen dollars, and pay for repair of several punctures, and a little oiling and cleaning, but have broken nothing and had no accidents of any kind beside the aforesaid punctures. My entire expense for the five months including odometer, oil can and oil, jack, and battery fluid, was seventy-nine dollars and thirty-six cents, or fifteen dollars and eighty-seven cents a month; which is less than it costs me to keep a horse.

Now as to advantages. I do all my town work, night and day, with the machine, except on stormy days, when I sometimes drive a horse, though I am obliged to keep on the paved streets when there's much mud. I do not use my auto for country trips of more than three or four miles.

One who has depended on horse transportation can hardly imagine the convenience of a machine, always hitched up, that will stand all night without complaint, and is always ready to go the moment you get in and push the lever. While not speedy, it goes easily ten or twelve miles an hour, and with freedom from delays, it saves half the time lost in driving. It is easy to manage but demands thoughtful care, which any man careful enough to be trusted to prescribe for the sick or do any surgery, ought to be able to give, and avoid accidents.

The enthusiasts, with their gasoline touring cars, think the electrics are "too slow," and it is true that *they* can go faster and farther than we do, *when they go at all*, but I hear of so many cases of "stranding," that I prefer a machine which will go and come to the limit of its capacity, without the aid of a machinist.

The economical man might not be able to figure out an auto as a profitable investment for a doctor, but after you have owned one it is like matrimony which makes a man wonder how he could have been content to remain single so long.

Yours sincerely,

Herbert C. Jones.

Decatur, Ill., Oct. 12, 1905.

HOW THE DOCTOR CAN PREVENT DISCRIMINATION.

Illinois State Medical Journal:

Dear Sir—I have just read the letter of complaint in your Journal, written by Dr. F. R. Frazier, in which he tells how physicians are discriminated against by the law, and flim-flammed by the employer. I went up against that game a long time ago, and it opened my eyes, so that I was not long in finding a remedy that controlled the situation.

When called to see such a case, just write a prescription like this, and ask the employer to sign it:

Dr. John Smith—I want you to see after the illness of my man Thomas Brown, and I will be responsible for the necessary expenses.

Jos. Jones, Employer.

This will fix the matter. Of course, where the employer is an honorable man of standing you need not ask for a written order, but just take his word for it. If he declines to stand good for it there is only one other way in which you can make yourself safe from loss, and that is to tell the employer to go to the overseer of the poor and get an order authorizing the attendance. It is a fact, that these very employers realize that the physician is under no more real obligation to see after the illness of servants than is the employer himself and not as much. You will be surprised to see how promptly they will rally to your support, when your diffidence is in abeyance, and your backbone is in evidence.

Respectfully, W. W. Crane.
Sinclair, Ill., Oct. 11, 1905.

News Items.

Dr. A. L. Golightly has removed from Carbondale to Dewmain.

Dr. Walter Miles, of Viola, has been visiting relatives at Virginia.

Dr. and Mrs. Irving Newcomer of Petersburg visited in Bloomington.

Dr. F. A. Neville of Meredosia visited his parents in Gallion, Ohio, recently.

Dr. and Mrs. Chas. W. Hall, Kewanee, have returned from a visit to Colorado.

Dr. Josiah T. Kretsinger, Leaf River, has returned from a trip to the Pacific Coast.

Dr. Peter J. Reynolds, Dwight, was thrown from his buggy Sept. 28, breaking his leg.

Dr. C. S. Nelson of Springfield has been looking after business interests in Texas.

Dr. Albert C. Johnston, Sidell, is seriously ill at the home of his parents near Horace.

Dr. Alpheus A. Bondurant, Cairo, who has been seriously ill, is reported to be convalescent.

Dr. J. H. Huber, of Pana, was recently called to Pierson, Indiana, by the death of his brother.

Dr. George F. Stericker of Springfield has been looking after business interests in Kansas.

The physicians of Evanston have raised the fee for a visit in that city from two to three dollars.

Dr. James Simpson has returned from Los Gatos, California, where he moved from Taylorville a year ago.

Dr. Jos. Sheirich, Philo, was taken to the Burnham Hospital, Champaign, Oct. 3, suffering from a bullet wound.

Dr. Henry Davis of Atwater has located in Carlinville. Dr. Davis has recently returned from studying in Germany.

"Cross-eye" Dr. leaves suddenly—"Dr" C. A. Lambert, who has advertised wonderful cures for cross-eyes, etc., in Coal City is said to have left Morris suddenly, leaving unpaid accounts behind him.

The "Beverly Farm" Home and School for Nervous and Backward Children has recently increased its capacity by the addition of eight rooms, which, with the new gymnasium recently opened, facilitates the care of about fifty children. Dr. Smith is to be congratulated on the rapid growth and wide usefulness of his school, located near Godfrey.

Dr. H. C. Fairbrother of St. Louis suffered a serious injury the last day of August by falling into an excavation made by the telephone company in the streets of that city. He has partially recovered and is attending to a portion of his work.

Fifty-two students received degrees at the eleventh annual commencement exercises of the Illinois Medical College, held in Handel Hall. The exercises were conducted by the Rev. Jenkin Lloyd Jones. Prof. W. C. Stanford, Secretary of the College, made the annual report for the two branches of the school, those of medicine and pharmacy, outlining plans for the coming year. Announcement of the graduating class then was made by the dean, Prof. B. Brindley Eads, after which the degrees were conferred by Prof. Heman H. Brown, President of the College. Attorney Thomas Cratty made the doctorate address, and Dr. Joseph C. Clawson delivered the valedictory address.

Doctor Held for Murder.

Canton, Ill., Oct. 10.—Dr. Robert Emery, an aged physician of Peoria, has been held in \$2,500 to await the action of the grand jury on the charge of murdering the new born baby of Miss Pearl Weaver of Farmington at the home of her sister in this city. The defense placed no witnesses on the stand at the preliminary hearing.

Hospital at Taylorville.

The contract for building the proposed Catholic Hospital was let recently to Theodore Brenkhater, of Decatur, on a bid of \$18,058. There were two other bidders, a Lincoln firm and a Taylorville firm. Work on the hospital will be commenced at once, and it is to be completed by February 1. The Sisters of the Most Precious Blood will have charge of the hospital when it is completed, they having contributed \$5,000 toward its erection. The rest of the money was raised in Christian County.

Marriages and Deaths.

MARRIAGES.

Albert Arendt, M. D. to Mrs. Frank A. Landman, both of Bloomington, October 22. Dr. Arendt was on his death bed when the marriage ceremony was performed to Mrs. Landman from whom he had been divorced 20 years before. He died soon after the ceremony.

Cassius N. Clay Buchanan, M. D., Easton, Ill. to Miss Marguerite M. Saffer of Mason City, Ill., August 31.

Dr. Thos. Reid Crowder of Chicago and Dr. Edith Cadwallader of Philadelphia were married at Titusville, Pa., October 26. The bride is a daughter of the late J. A. Cadwallader, one of the most prominent oil operators of Pennsylvania. She was graduated from the Woman's Medical College in Philadelphia in 1900, where she spent two years in practice. The following year she studied in Europe, and later was appointed to a chair in obstetrics in the Woman's Medical College of Pennsylvania and became medical director of the hospital. Dr. Crowder is chief of sanitation for the Pullman company. The couple will reside in Chicago.

Mortimer Frank, M. D., to Miss Donie Katz, both of Chicago, Oct. 4.

Louis H. Friedrich, M. D., Chicago to Miss Rose Rudolph of Milwaukee, October 5.

Richard M. Genius, M. D., to Miss Elizabeth Morse, both of Chicago, Oct. 12.

Perry B. Goodwin, M. D., Summum, Ill., to Miss Mabel B. London of Bristol, Conn., at Astoria, Ill., October 3.

J. Newton Hathaway, M. D., Chicago to Miss Nathalie L. Yonkers, at Grand Rapids, Mich., September 30.

Isaac Moore, M. D., Alton, Ill., to Miss Elizabeth Foree of Melville, Ill., at Quincy, Ill., October 4.

Charles Parker, M. D., Sterling, Ill., to Miss Stella Geofroy of Rock Falls, Ill., October 5.

Harold Hargreave Roberts, M. D., Maywood, Ill., to Miss Leila Lines of Chicago, October 14.

Harry Burton Roberts, M. D., Highland Park, Ill., to Miss Caroline Gertrude Brown of La Grange, Ind., October 17.

Wm. R. Smith, M. D., Grand Ridge, Ill., to Miss Katherine R. Burgétt of Keithsburg, Ill., October 3.

John A. Vincent, M. D., Springfield to Miss Selina O. Boissoneau of Morgan Park at St. Joseph, Mo., October 19.

Todd Pope Ward, M. D., Mt. Vernon, Ill., to Miss Virginia Griffith Watkins of Owensboro, Ky., September 26.

DEATHS.

Albert Arendt, M. D., Bloomington, October 22, aged 63.

Franz Bacher, M. D., Heidelberg, Germany, died at his home in Quincy, Ill., October 15, from senile debility, aged 77.

James Bourdman, M. D., Bradford, for many years Coroner of Stark County, aged 61. He was a veteran of the Civil War.

Geo. Gregory Carroll, M. D., died at his home in Rochester, Sept. 25, from cerebral hemorrhage, after a short illness, aged 62.

Frederick Cole, formerly of El Paso, Ill., died recently at his home in Garden City, Kan., aged 76.

Joseph Huyett, M. D., died at his home in Milan, Oct. 6, aged 85. He was surgeon in the Ninety-third Illinois Regiment during the civil war.

Ulysses G. Hipp, M. D., died at his home in Chicago, October 24, from the effects of an overdose of chloral, taken it is supposed with suicidal intent, aged 33.

James C. McCallister, M. D., died at his home in Genoa, Ill., September 25, and was buried September 27, aged 90.

Louis A. Malone, M. D., formerly of Jacksonville, Ill., died at the Indianapolis City Hospital, October 14, from cerebral hemorrhage, after an illness of two weeks, aged 47.

Albert Powell, M. D., died at his home in Marion, September 21, from tuberculosis, after an illness of three years, aged 36.

Chas. I. Roseberry, M. D., died at his home in Easton from injuries sustained by a fall several months before, aged 74.

Jos. Maurice Sheahan, M. D., died at his home in Quincy, September 21, after an illness of a year, aged 52.

Chicago Medical Society.

The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building.

OFFICERS:

C. S. BACON, 426 Center Street.....President
FRANK X. WALLS, 4307 Ellis Avenue.....Secretary
A. E. HALSTEAD, 2937 Indiana Avenue.....Treasurer
W. A. EVANS, 103 State Street.....Chairman Medicolegal Committee
WM. HARSHA, 103 State Street.....Chairman Membership Committee

NOVEMBER, 1905.

A regular meeting was held October 4, 1905, with the President, Dr. C. S. Bacon, in the chair.

Dr. Max Reichmann reported a case of tumor of the brain diagnosed by the skiagraph and Roentgenogram. He demonstrated pictures and exhibited the patient.

The case was discussed by Drs. Sanger, Brown, Donelson, Grinker, Mettler and the discussion closed by the author.

Dr. David Lieberthal exhibited a case of urticaria pigmentosa.

Dr. Harold N. Moyer showed a case of incipient acromegaly, which was discussed by Drs. Gradle, Patrick, Grinker, Ladova and the discussion closed by Dr. Moyer.

Dr. Hugh T. Patrick reported a case of tabes in a negress, and exhibited the patient. He also showed a case of palsy.

These cases were discussed by Dr. Moyer.

A Rare Specimen of a Roentgenogram of a Brain Tumor.

By Dr. Max Reichmann of the Chicago Roentgen Laboratory.

Through the courtesy of Dr. John E. Holberg I am able to present to you tonight this four-year-old boy of Italian descent, who was brought to my laboratory August 7, 1905, for the purpose of determining the nature of a tumor which you see upon the vertex of his skull.

Before I demonstrate the Roentgenogram I will, with the permission of the attending physician, give you a brief history of the case.

As far back as the family history is concerned, the parents and grandparents, as well as one brother, are living and apparently in good health. A specific history is denied, although by close questioning we have ascertained that the father of the little patient was suffering a few years ago from a sore throat

of long standing and also soreness of the mouth. The mother had no miscarriage, but one child was still-born. The patient did not suffer from any disease to mention. His appetite and bowels were always normal.

The tumor was first noticed when the patient was five months old and grew, since then, to its present size. The patient had since September, 1903, frequent spasms in which he lost consciousness. His body became rigid and his face cyanotic. Those spasms would continue for a few moments and except for a little drowsiness the patient would appear well again.

The exophthalmus appeared first in December, 1903, and seems to be increasing. The first Roentgenogram I will show you was taken August 7, 1905, while the patient was under the influence of chloroform. The tube used was a medium (Walter Scala 5), distance from tube to plate about 50 cm. and time of exposure five minutes.

After having developed the plate, I was very much surprised to find a very thin skull, the convolutions of the brain beautifully marked, and at the side of the tumor was a mass indicating soft tissue.

A number of gentlemen to whom I have shown the plate have expressed their opinion of the tumor as being specific, and we put the patient on increasing doses of potassium iodide. Since five weeks the patient did not have any spasms. The second Roentgenograms was taken on September 29, 1905, under the same conditions as the first one, and shows exactly the same conditions as the first.

In conclusion, I would say that I had investigated all available literature about Roentgenograms of the skull and I have failed to find one single instance in which there was such a beautiful view of the brain.

Discussion.

Dr. Julius Grinker: I want to say a word or two in regard to the value of the X-ray

in diagnosing brain tumor. I believe the speaker has overvalued the X-ray in the diagnosis of tumor of the brain. A tumor of dense consistency, one that may be called an exostosis, can be easily detected by the X-ray, but that kind of tumor can also be diagnosed without the X-ray. However, in the very cases in which we need the use of the X-ray as an aid in diagnosis we are left in the lurch. Tumors situated in regions where the focal symptoms are indefinite, where we suspect a brain tumor, we are disappointed in the findings of the X-ray. I have in mind a case of infiltrating glioma in the frontal region which gave indefinite signs of brain tumor. I was enabled to make a focal diagnosis of neoplasm, the diagnosis was verified on the operating table and at the post-mortem examination it was found that the localization of this tumor was correct—yet the X-ray gave us no clue either to the existence or situation of the tumor.

I will take issue with the gentleman and say that in spite of X-ray findings we should make a careful study of every case; study every little sign that may have some bearing upon the case, and only when we have positive signs of brain tumor make such a diagnosis, no matter what the X-ray may prove. Oppenheim, who has written one of the best monographs on tumors of the brain, says that the X-ray can only be relied upon in a very, very few cases; so that in view of this fact, we must not be too optimistic about the value of the X-ray in the diagnosis of brain tumor. We must admit, however, that the doctor has succeeded in showing us the best skiagraphic views of the brain ever produced, and I congratulate him upon his technique.

Dr. L. Harrison Mettler: I do not know that I ought to say anything, Mr. President, in regard to this case, inasmuch as Dr. Grinker has really taken the words out of my mouth, and he has said it in a better way than I could have done.

My old professor, the eminent Da Costa, of Philadelphia, used to say to us, when teaching us about the use of the stethoscope, he being one of the first, if not the first, to introduce it into this country: "Gentlemen, in practice, use your stethoscopes, but do not depend upon them. Let them assist you, but make your diagnosis, if possible, without them."

In regard to the X-ray in the diagnosis of brain tumors, the same remark may be made. I have had a limited experience in the use of skiagrams and in attempting to diagnose intracranial neoplasms, and I must confess that I have been frequently disappointed in the diagnosis made by the skiagram on one side, when clinically I felt sure that my diagnosis was correct that there was a growth on the opposite side; and I have urged the surgeon to follow the skiagram in operating, although it was against my clinical findings. In one or two instances a second operation was made

upon the other side, and at the second operation the clinical diagnosis was nearer the point than the skiagram. If we depend upon skiagrams to make a diagnosis in all instances of brain tumor, we will be disappointed very much at times.

I agree with Dr. Grinker that we should not rely too much on the use of the X-ray in these cases, but depend upon those well-known, established clinical findings of intracranial growths of all kinds. Skiagrams in these cases are simply confirmatory; yet skiagraphy in connection with brain tumors has not reached that point of perfection where we can use it at all times in an absolutely confirmatory sense. After all, it is only an aid, and one that we should not place too much confidence in. One's clinical diagnosis, if it is sufficient to lead to a skiagraph, will probably be much more reliable than the skiagraph itself in making the ultimate or final diagnosis of the case.

Dr. Reichmann (closing the discussion): It is possible to skiagraph the convolutions of the brain and bring them out very clearly, and in this particular case we have positive evidence of the presence of a tumor of the brain. This tumor can be plainly seen, and it was on this account that I have exhibited the case before the Society.

Dr. David Lieberthal presented a case of *urticaria pigmentosa*.

The disease belongs to the rarest of affections of the skin. There are no more than about thirty cases recorded. It begins in the first weeks or months after birth as a plain urticaria. The lesions do not disappear quickly, but persist for days or weeks. The color which is at first bright red changes to purplish-yellow, yellowish-brown or dark brown. Although the wheals disappear, the stains remain place for months or years. New lesions appear with the same changes, but there are periods of remission when but a few lesions are present. At the friction of the spots new wheals spring up or disappearing ones become more pronounced. The lesions itch considerably, as a rule. The places of predilection are the trunk and extremities, although in the course of time face and scalp may become affected. As puberty approaches, the disease begins to subside and disappears soon afterwards. The general health is, as a rule, good. The etiology is unknown. The pathology offers similar conditions as a plain urticaria, with the addition of increased pigment in the epidermis and an accumulation of mast cells in the cutis. In the diagnosis two conditions should be considered. Where the spots are yellow, xanthoma must be excluded. *Urticaria pigmentosa* begins soon after birth, and the lesions will become more pronounced by friction. The histological findings are perfectly distinct in both conditions. Another form of urticaria, *urticaria perstans cum pigmentatoine*, occurs at all ages and does not show numerous mast cells in the corion.

The prognosis of *urticaria pigmentosa* is

unfavorable. The general health of the patient does not suffer, and the disease disappears about the time of puberty. There is no specific treatment known. Internally, sodium salicylate, atropine and other remedies are recommended. Besides, the digestion should be looked after. Externally, all those applications should be employed which will relieve the itching.

The present patient is a girl of four, in whose family there is no skin affection known. Her parents and her sister of two were always and are enjoying good health. The patient was always well except that she had a mild case of measles six months ago. Her skin affection began six weeks after birth in the form of an urticaria and dark spots were first noticed by the mother two or three months later. It appeared first on the chest and abdomen and spread with intermissions until it now covers the trunk, extremities, neck and partly the face. The lesions were always accompanied by itching. Change in temperature has a decided influence on the color of the lesions. In warm weather or after a warm bath the brown spots appear more red, while in cold weather dark brown. By rubbing them they become more prominent and reddish.

Incipient Acromegaly.

Dr. Harold N. Moyer: This woman is 23 years of age. She consulted first for progressive failure of vision. Two weeks ago her right vision was 22/100; left vision 20/30. For seven years there has been no menstrual flow. Three years ago she began to have headache on the right side. The pains were neuralgic in character and radiated into the temple, and they have progressed with increasing severity. That is the subjective history, and other than that she has been well.

She has bitemporal hemianopsia. This locates the lesion which is due to pressure upon or destruction of the anterior part of the optic chiasm. There is anesthesia on the nasal side of each retina. The natural supposition is that it is due to a growth, probably an enlargement, of the hypophysis. The chiasm is separated by only a thin plate of bone from the sphenoidal sinus, and has bony structures all about it. An exostosis, or a growth other than enlargement of the hypophysis, might give the same symptoms. Again, there might be enlargement of the hypophysis without acromegaly. I understand all these possible exceptions. We have certainly to deal with a slow growth. How long she has had the hemianopsia is unknown. She was not aware before she was examined that her fields had narrowed on the outer side, so that we are limited in our deductions from the history to these simple facts; assuming that the head pains have to do with the same trouble, then we must go back at least three years for their origin.

In acromegaly amenorrhea is a common symptom. It occurs in perhaps 20 or 25 per cent of the cases.

In a collection of 175 cases 92 per cent had distinct eye symptoms, and of these about one-third had bitemporal hemianopsia. There are all kinds of visual fields in that list. In one there was blindness in one eye, and on the other side blindness of temporal half of the field. The most distinctive alteration in the visual field is this bitemporal hemianopsia, as it locates the site of pressure.

The eye grounds are negative. The right nerve head is perhaps a little pale. Aside from that the disc is clear and the macular region is free from involvement.

I have already mentioned amenorrhea and headache. She speaks distinctly of somnolence. She is sleepy most of the time. She falls asleep very readily. If she sits down during the day she can go to sleep. She will sleep indefinitely mornings if she is not called.

She says her face is enlarged. I have here a photograph which was taken five years ago. It seems to me that her face has broadened. She thinks herself that it is broader in some places than it appears in this photograph.

The most characteristic thing I relied upon for a diagnosis in this case is the fingers. I think you can see at a distance that they are enlarged; a clubbing of the last joint. In one of the fingers there is a thickening of the soft parts about the first joint, all of them being nearly alike, but not involving the thumb. Comparing her fingers with my own, the difference is very noticeable. You will notice enlargement of the last phalanx of this finger (index). That is true of all the fingers of the right hand, with the exception of the little finger, in which the condition is not so marked.

Taking the history of the case as a whole, the somnolence, the amenorrhea, headache, bitemporal hemianopsia, failure of vision, clubbing of the extremities and enlargement of the face, if there be such, I think we are justified in saying that we are dealing here with a case of acromegaly in its incipency.

I notice that we have quite a representation of surgeons here tonight, and I would especially direct their attention to this case, as it is one in which pressure on the chiasm is rapidly lowering vision in one eye, and what practically amounts to blindness in the other eye. If the case progresses, very soon optic atrophy will supervene. I would like to know if the surgeons would not attempt the removal of the pituitary gland in such a case. There ought to be some advance in surgery of late years along this line. It seems to me surgery offers the only chance of saving the optic nerves. I understand that an operation has been attempted in a similar case, but I have not been able to get at the original report.

Hinsdale, in his monograph published in 1897, spoke very favorably of the thyroid gland and also of the pituitary gland extracts, and I shall get some of the pituitary gland extract, if I can. She has been for three days on desiccated throid, but as yet it is too soon

to predict anything. Osler speaks disparagingly of it, but the literature is favorable to the use of glandular extracts. This is the earliest case in which I have been able to make a diagnosis, and I feel quite confident that it is acromegaly.

Discussion.

Dr. Julius Grinker: I would like to ask Dr. Moyer what he thinks of the article of Dr. W. W. Gray, who has recently described cases of beginning acromegaly. He has observed three cases in which there was no enlargement of the extremities nor of the maxillary bone, and he has made a diagnosis of incipient acromegaly from the separation of the teeth in the lower jaw as compared with their previous state. That is to say, he believes that if a person has large or abnormal spaces between the teeth of the lower jaw, and it can be ascertained that previously the teeth were close together, and began to separate or leave spaces, this is to him a sure sign of beginning acromegaly.

It would be interesting to have this statement verified in this supposed incipient case of acromegaly.

Dr. Rosalie M. Ladova: As regards the shape of the patient's fingers, as it was pointed out by Dr. Patrick, it is hardly fair to compare them with the doctor's own fingers, as allowance must be made for individual variations and the individual's own fingers should be compared at different periods of life. A slight change in the shape or size of a hand is a natural thing. As we grow older the shape and size of individual organs and of the whole body changes, and unless it reaches a pathological degree it is unscientific to look upon as a sign of disease.

There is nothing striking in the appearance of the patient as yet.

Acromegaly is one of the few conditions where the appearance is striking, and one who has seen one case cannot help recognizing the next at a glance.

If it were an early case the pressure symptoms would not be as marked as they are here; in an advanced case the appearance would probably be more characteristic.

While I would not feel like disputing the doctor's diagnosis, I would not be inclined to consider it positive till a later date.

Dr. Moyer (closing the discussion): You will observe that in this patient the teeth are not separated in either the lower or upper jaw, but are close together. This sign in connection with the teeth was described in Germany before it was taken up in St. Louis. When the jaw enlarges in cases of acromegaly so that the teeth become more or less widely separated, the diagnosis is easy from the changes in the bones.

Dr. Patrick has only repeated what I said, namely, that tumors of the pituitary gland occur without acromegaly, and acromegaly with-

out involvement of the hypophysis. It is certain that there is pressure on the chiasm, and associated with it a rapidly increasing blindness without nerve change. The macular region is clear. If I were certain that this case was one of acromegaly, I would not have brought it here, as it would not interest you, but the fact that it is one of those speculative cases makes it valuable for us to discuss.

Discussion.

Dr. Harold N. Moyer: I do not know why Dr. Patrick calls this a case of Saturday night palsy when he says that it occurred on Friday night. As a matter of fact, these palsies that occur during the day or night are due to pressure. When Rush Medical College moved to its present location, there was an immense amount of building going on in the neighborhood. Almost every rainy day during the active building season we would get a case of pressure paralysis. The rain would come on, the men would cease work and go out for a pail of beer. They would lie down on a lot of lumber, put the forearm under the head and produce pressure paralysis in that way. I have seen one case of pressure paralysis in which the ulnar nerve was alone involved. The patient fell asleep standing at a bar resting his chin on his hand, the elbow resting on the bar pressing on the ulnar nerve and causing complete paralysis. He also had atrophy, from which he did not recover.

Southern District, Chicago Medical Society.

The annual meeting of the Southern District was held at the Vendome Hotel, Tuesday, September 21, 1905. The annual election of officers resulted in the election of Charles E. Paddock, President; W. S. Harpole, Secretary; F. Gurney Stubbs, Treasurer; Councilor, Joseph Miller; Alternate Councilor, W. H. Cheney.

After the transaction of the usual business of the annual meeting a smoker was held. The meeting was well attended.

W. S. Harpole, Secretary.

CHICAGO LARYNGOLOGICAL AND OTOLINGUAL SOCIETY.

A regular meeting was held October 3, 1905, with the president, Dr. William L. Ballenger, in the chair.

Fibrolipoma of the Throat.

Dr. E. Fletcher Ingals exhibited a patient, and said:

You will recall my presenting the history of a case some time last winter, in which a man had a large fibrolipomatous tumor in the throat. I removed a piece of it and the remainder fell through a hole in the mucous membrane of the larynx and choked him, so that I had to do an instant tracheotomy, and after perhaps ten or twelve days another piece was removed, so that the tumor was pretty nearly all taken away. Before he left the city I injected the remainder of the growth with lactic acid, using 2 per cent carbolic acid, with a view to preventing after-

pain from the injection of the 20 per cent lactic acid. I had not seen him again until yesterday, when he came to the office, and I found that the appearance of the growth had changed considerably and it seems to me it is considerably smaller than it was when he went home, although I must confess I cannot tell exactly what the size of it was when he went home. It appears to be located differently, and I think perhaps you can get a very good idea of its present appearance from a drawing I made in the record. It shows a tumor on the upper surface of the right side of the epiglottis, but not attached to the pharyngeal wall, as I had supposed it was when I first saw him. Looking back a few pages in the case record, we find the tumor as I saw it last winter, when I caught it with snare and had the critical time with him.

I asked the patient to come here tonight because I wanted the members to look at him and suggest what is best to do for him. He cannot stay in the city long. I used 2 per cent carbolic acid and 20 per cent lactic acid, injecting twenty minims. He bathed the throat during the night with ice water, for the purpose of keeping down the inflammation. He used cold water during the night, and when I saw him today the mass was much larger than when I saw him yesterday, not twice as large, of course, but the growth was not enough to be in any way distressing, or the cause of danger.

If some of the members will examine the case thoroughly and make suggestions as to what might be done in the future, I should be very much pleased.

After the trial last winter, the only thing that seemed to offer a good outlook was to make an external incision and remove the growth in that way. This was recommended, but he objected to it, and when he looked much better yesterday I thought it would be well to follow out the plan we started.

Discussion on Dr. Ingals' Case.

Dr. Norval H. Pierce: The mirror picture is very much like that of a branchial cyst. It seems to invade different tissues, apparently being embedded in the side of the epiglottis and the base of the tongue and pharyngo-epiglottic fold. I believe that a permanent and thorough result can hardly be obtained by local treatment, and I think, if it were my case, I would advise removal by external operation, namely, Lagenbeck's lateral pharyngotomy.

Dr. Ingals (in closing the discussion) said: It seems to me the suggestion of Dr. Pierce as to the treatment is radical. The patient will not consent to an external operation on account of the impairment.

As to its being a branchial cyst, I suspected it when he came back last fall. I removed the growth some five years ago first, and when he came back last fall the appearance of it led me to believe that I had made a mistake. I thought we had to deal with a branchial cyst, but the result of the operation disclosed that it was not.

Presentation of Cases Operated on by the Killian Method for the Cure of Suppurative Frontal Sinus Disease.

Dr. Norval H. Pierce: I have two cases of frontal sinus abscess that were operated on by the Killian method, one of which was operated by me and another one that was operated upon by Professor Killian himself, and these two patients have been kind enough to come here to let you see the result of the operation by the originator of the method.

Mr. K. was a patient of mine before he went to Europe, and a diagnosis of empyema of the frontal and anterior ethmoidal cells and antrum was quite easy. I treated him by local methods for a long time, until, in short, both he and myself became discouraged and I advised the radical operation. He chose to go to the fountain-head, to Killian himself, which he did, and comes back more than satisfied. I saw Mr. K. some time after the operation, which was done in July. At that time there was nothing to be particularly proud of, as the antrum was full of cheesy matter; there was osteomyelitis of the anterior portion of the upper jaw bone. Mr. K. again went to Europe and the operation on the antrum was completed. The surgical treatment has been successful. Mr. K. is now entirely well and he will permit any of you to examine him.

The other case I operated on three weeks ago today. It has several points of interest: (1) Marked deviation of the septum to the left; (2) destruction of the bone, septum between the two frontal sinuses and (3) the peculiarity of history.

The young man says that almost as long as he can remember he has had attacks of swelling of the left eye and exophthalmos four or five times a year. The eye would return to normal. The attacks were accompanied by great headache, but there was no history of nasal discharge until lately. For some time past he says that he has become mentally obtuse. He is a newspaper man, and he thinks that his memory has been failing him, and on account of some pain over the eye and a discharge from the nose, together with this mental hebetude, he applied to me for relief. The diagnosis was made, not by intranasal examination, because it was exceedingly difficult to get a view of the region about the anterior head of the middle turbinated body, but on account of the history of swelling, exophthalmos, and because there was a discharge of pus from that side of the nose. The usual incision was made, and the moment the mucous membrane was punctured the pus pulsated out of the wound. I suspected a perforation of the inner tablet of the skull, but found none. The partition between the two frontal sinuses had entirely disappeared, and the other frontal sinus was full of granulation tissue and pus, so that a probe inserted at this point could be very easily run in as far as this (illustrating). The floor of the sinus was removed, the frontal process of the superior maxilla was removed, the anterior cells of the

ethmoid removed, and the wound closed. Healing occurred by first intention, with the exception of a small portion, the size of a pinhead, and the patient has made an uninterrupted recovery. There is very little discharge now, and what discharge is taking place comes from the frontal sinus, which drains from the nostril. I can wash out the frontal sinus of the opposite side by a curved canula pushed up into the nose. This patient will permit you to examine him.

The other case is one of some interest, namely, a large bony cyst of the anterior end of the middle turbinated body, with the most extensive deviation of the septum that I have ever been called upon to correct. It was S-shaped up and down, S-shaped inferior-superior and antero-posteriorly. The upper portion on the right side was pushed against the middle turbinated body, so that the fissura olfactoria was obliterated. Posteriorly the left side was occluded. He could not breathe through his nose, and he was greatly distressed. The first thing I removed was the large cyst of the middle turbinated body of the left side. This was as large as a pigeon's egg. Now, the most interesting thing about the case is that within a week after the operation on the septum enormous polypi sprung into existence.

I have not examined him for nearly a week, and the last time I saw him the polypoid growths were diminished, but within a week after the operation both nostrils were so full of polypi that he was worse after than before the operation as far as nasal respiration is concerned.

The next point of interest is the ridge which has formed on the right side of the septum, notwithstanding the fact that all the cartilage was removed. This ridge may be the result of the organization of an exudate of serum or blood between the two leaves of the mucous membrane.

Discussion.

Dr. J. Hollinger: I would like to ask Dr. Pierce why he did not operate on both frontal sinuses at once. In F. f. o. Libenmann described the operation of both sinuses with an "H" shaped incision; that is, to use Killian's incision on both sides, connected with a cross incision at the bridge of the nose. The double sinus operation is not at all very exceptional and gives good results.

I showed a case with Killian's operation before this Society in which there was no connection of the frontal sinus with the nose, or ethmoidal labyrinth or maxillary sinus. In this case, too, the operation was done in a typical way, namely, the removal of the whole mucous membrane of the sinus, the removal of the roof of the orbit, followed by the transplantation of the tissues of the orbit into the frontal sinus.

As to the other patient with polypi after the removal of a large cyst of the nose, I showed last winter a specimen before the German Medical Society. It was parts of the wall of a large

cyst of the middle turbinate. A large bunch of polyps fell down into the nose and occluded that side completely. At that time I looked up the literature on the subject, and was surprised to find nearly unanimous consent on the part of authors that these bone cysts are congenital. I do not think we have a right to call a cyst congenital that is so typical of an inflammatory origin.

This is the second case with which I am familiar. The above deductions of a Japanese physician, Kichuchi, who has done the best work in this line, are contrary to facts.

Dr. Joseph C. Beck: Mr. Chairman—These are certainly interesting cases, but I do not think Dr. Pierce does himself justice in showing the case he operated upon at this time. I believe if he were to exhibit this patient six months later, after he had done a good job on the septum, and has established good drainage, he will be more satisfied. From the exterior it looks very well, but I have had an experience in a case of frontal sinus disease that I presented to you last year as cured by means of the Killian operation. This case presented a picture similar to that of Dr. Pierce's case, namely, a deflection of the nasal septum. I operated on the frontal sinus and did not provide for good drainage, hence there was a recurrence, and I had to reopen again, and not until the nostril was free, so far as the olfactory region of the upper nose was concerned, did the patient remain well. I doubt whether Dr. Pierce's patient is well at this time.

The description of the two sinuses being involved in this case cannot be doubted, since the operator has passed a probe from one sinus to another. We do not have a history of supuration from the right side of the nose, nor is there any evidence of any suppuration on this side.

The other case of frontal sinus disease reported by Dr. Pierce shows the good result from Killian's method and of paraffin injections. This is easily done in all these operations. After secondary contraction of the scar takes place there is an excavation, and this excavation can be filled out very nicely with a small amount of paraffin.

Dr. E. Fletcher Ingals: Dr. Pierce spoke of polypi coming down so soon. I want to ask whether he supposes they were formed in that length of time, or whether they had been hidden away somewhere before? I have often seen large polypi within a few days after I had thought the nose was absolutely free. Certainly there was no polypi when I got through with the patient, but I found them within a week thereafter, and I had supposed that they were formed before, and that there was a little sac with nothing in it that filled up suddenly. I do not know what pathologists say about that. I simply ask the question for information.

As to the case in which he found two frontal sinuses connected, it recalls to my mind a case I operated on some years ago where there was no visible partition between the two and the posterior wall was entirely gone. We know that sometimes the sinus on one side may either be absent or very small and both sinuses may

discharge normally through a single duct, so that it is not altogether singular that he found these sinuses involved at the same time.

As to the after results of these operations, the patient can be very greatly benefited by the use of paraffin, as shown in this case, and whether the paraffin is entirely innocuous or not is still, I think, open to question, but where it can be used and it works well it would be a great improvement in the appearance of Dr. Pierce's patient. In a number of cases I saw last Spring that had been operated on the contractions made a hideous scar that would certainly be objectionable to a lady. This can be overcome by the paraffin, for a while at least, if there should be contraction in Dr. Pierce's case.

Dr. Henry Gradle: I wish Dr. Ingals would give us more of the details of his operation on the frontal sinuses through the nose.

Dr. Ingals: The operation I suggested for draining the frontal sinus was one that is applicable where we can get a probe into the sinus, and where this can be done we can make a free opening. I have a couple of patients who had disease of the frontal sinus, one of them apparently for ten years and the other for sixteen years. In both cases suppuration ceased within ten or twelve months. There was not so much pus as there is in those cases where Professor Killian operated. I could not see anything that looked like pus. I have a gentleman upon whom I operated two months ago where the disease had been running for some years—I do not know how long—where the results seemed to be good. The operation is done by introducing a probe from a millimeter to two millimeters in diameter, and over this probe a hollow bur is run in. I run over the hollow bur a spiral tube to keep the bur from irritating the tissues, as it is turned, and the bur is connected with a dental engine and pressed in, and it cuts into the frontal sinus quickly. The pilot or probe projects beyond the bur a millimeter or a centimeter if you choose, so far as you like, and the bur cannot possibly get nearer than that, which prevents you from opening through the cerebral side of the frontal sinus. The operation seems desirable in suitable cases, even where one might want to do a radical operation, because free drainage can be established by putting in a little tube, and you all know the shape of the tube.

Dr. Pierce (closing the discussion): Professor Killian advises against the double operation at a single sitting. There is nothing to be gained by it, and he finds that the shock of the double operation is comparatively much greater. Therefore, he operates, if both sinuses are affected, on a single sinus at a time, and I followed his advice in this case. Had I not been with and seen this method of Killian I should not have operated on both sinuses at one sitting. It took nearly two hours to do this operation, and the patient was quite weak at the end of that time. However, I believe that this sinus on the right side has a chance of getting well without any further operation. The sinus now drains thoroughly and each day there is a decided lessening of the discharge. The ques-

tion has occurred to me whether this large cavity over the right side is a part of the left sinus. Possibly it is. It is possible that there is only one sinus in this case. It may be an enormous right sinus which reaches over the right side, and there may be a very small one still further to the outer portion of this sinus.

In answer to Dr. Beck's remarks I would say that the sub-mucous resection of the septum should not be performed in the presence of empyema of the sinuses. Killian puts that down as one of the contradistinctions for the operation.

In answer to Dr. Ingals' question, I believe these polypi on the left side were formed *in toto* within a week, because I was careful in examining two or three days afterwards to note the absence or presence of polypi, and there were none, so far as I could ascertain by careful examination. The location of some of these polypi render it impossible that they were overlooked.

Dr. Otto T. Freer exhibited a patient and read a short paper on this subject.

Diffuse Infiltration of the Right Side of the Nasopharynx With Paresis of Cranial Nerves.

Dr. Otto T. Freer, Chicago: The patient, a porter by occupation, is 46 years old. He states that excepting scarlet fever in childhood, he has never had an illness until the one which afflicts him now. His family history is negative and his habits exemplary. The scarlet fever left him very deaf in the left ear, but the hearing in the right ear was perfect until his present affection, which began in July, 1904, with ringing and rushing sounds in the right ear soon followed by slowly increasing deafness. In November, 1904, he began to have pain extending over the entire right side of his face to the median line and also felt in the temple and scalp as far back as the ear. This pain has never ceased and in consequence he has not had a good night's rest during the past year, especially as the suffering is worse at night, subsiding in a measure in the daytime. Since May, 1905, he occasionally has a sensation as if flies were crawling upon the right side of his face and the same region is at times the seat of abnormal sensations of heat and cold. The pain affects all of the teeth, which are sound, on the right side of the upper and lower jaw as far as the centre and the same teeth feel numb when he chews. This unpleasant sensation and a sense of powerlessness in the right half of the jaw led the patient to masticate with the teeth of the left side.

On the 20th of March, 1905, he was operated upon in a hospital, the constant pain in the right side of his head and face having lead the surgeon to suspect brain tumor so that the skull was opened in the right temporal region. Shortly after this operation he saw double and some weeks later his right eyelid began to droop, the lid for the past six weeks remaining completely closed, though it could be raised by a great effort up to October 2, 1905. He has never had

vertigo nor vomiting. He has a constant slight tremor of the hands which he claims to have had since childhood. His right nostril is partly obstructed and is apt to close entirely at night.

From descriptions he has given he has evidently had treatment with mercurial inunctions and iodide of potassium last winter.

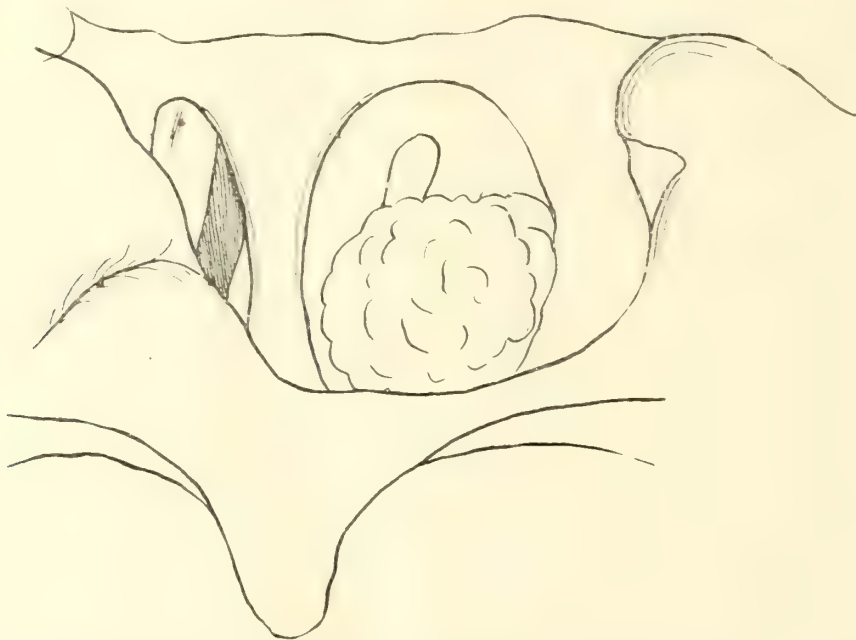
Examination shows the right membrana tympani cloudy except in the region of the light reflex. It is strongly retracted.

The left membrana tympani is the seat of two large perforations above and below the malleus. The ear is dry.

The watch can not be heard in either ear. In Weber's test all of a number of forks, beginning with C2, 16 vibrations up to C of 2048 vibrations, are heard best in the right ear.

the right ear is due to imperfect sound conduction and that the right labyrinth and auditory nerve are intact. The affection of the left ear is evidently an old post scarlatinal condition that has no connection with the present trouble.

At my request Dr. W. Franklin Coleman examined the eyes for me and reports as follows. The vision in the right eye is 20-30 minus, not improved by glasses. The right eye is equal to Snellen 1, 75 at 12 inches. With a lens of three diopters plus its equals Snellen 0, 8 at 12 inches. This shows that the accommodation of the right eye is paralyzed completely. The vision of the right eye is however also deteriorated independently of the loss of accommodation as shown by the diminished vision for distance



Legend: Postnasal view showing infiltration of Eustachian tube on the left. The left inferior tubal region on the right side and normal turbinate is hypertrophied. Dr. Freer's case.

Rinne's test is negative in both ears.

In the Schwabach test he hears the A fork 13 seconds longer than normal in the right ear.

All tones of the Galton whistle are readily heard in the right ear but the left ear perceives only its loudest lower tones and hears the low forks proportionately better than high ones.

Whispered numbers are not heard in the left ear and only the loudest voice close to it. Before inflation with the Eustachian catheter whispered numbers are understood in the right ear when the mouth is very close to it and spoken numbers are heard at 18 inches. After it has been inflated the right ear perceives whispering at 3 inches and the voice at 3 feet instead of 18 inches. The conclusion drawn from the hearing tests is that the deafness in

under all conditions, this proving that the function of the optic nerve is interfered with. The fundus however appears normal, the lesion to the optic nerve not changing the ophthalmoscopic image. The vertical aperture of the right lid is about 4 millimeters when the patient raises it by the aid of the occipito-frontalis muscle. Up to the day of Dr. Coleman's examination, October 2d, however he was able to open the eye nearly completed by the use of the levator palpebrae, which is now completely paralyzed. The right eyeball can be moved outward only 10 degrees, inward 15 degrees, upward and downward 10 degrees. The right pupil is slightly dilated and 4 millimeters in diameter, the left pupil being 3 millimeters across. The right pupil reacts but slightly to

light and not at all to convergence. The tension of the eye is normal. There is no exophthalmos. A test with cylindrical glasses shows paralysis of both oblique muscles of the right eye. Nevertheless the patient sees things horizontally because both these muscles being paralyzed they balance each other.

The left eye has perfect vision, 20-20 plus, equals 0, 5 Snellen at 12 inches and is normal.

The conclusion to be made from the ocular findings is that all of the nerves supplying the right eye are damaged, the oculomotorius being paretic in all but the branches supplying the inferior oblique, levator palpebrae muscles and muscles of accommodation which are all completely paralyzed, the inferior, internal and superior rectus muscles showing only greatly impaired function. The right optic nerve is paretic and the trochlearis nerve completely paralyzed. The patellar reflexes are normal.

Three and one half inches above the centre of the right zygomatic process the scar of a wound in the skull may be seen. It is about one inch long and but slightly depressed.

There is no facial paralysis and no paralysis of the tongue or palate. Speech is normal. The patient says the right half of the tongue feels numb to the touch but he notices slight contact nearly as well as on the left side.

There is decided analgesia, as tested by a pin point, over the entire right side of the face to the median line, over the right temporal region of the scalp and over the right pinna as far as its posterior free border. The analgesic zone stops with striking abruptness on the dorsum of the nose and in the median line of the chin. There is complete anaesthesia of the integument over the right half of the chin but everywhere else over the analgesic area he feels the touch of the finger, but not as acutely as on the left side of the face. He called my attention to the fact that when he felt of his ear he had the normal sensation of touch over the back of the pinna, (region supplied by the auricularis magnus nerve derived from the cervical plexus) and that the entire ear in front of this had an unnatural sense of numbness on contact. (Region supplied by the auriculo-temporal nerve, branch of the third division of the fifth.)

The faradic current is not felt at all over the affected area but is distinctly noticed on the left side of the face.

The sense of smell is not impaired.

Examination of the nasopharynx presents the condition shown in the drawing, a diffuse swelling of the right tubal region which nearly hides the choana, conceals the orifice of the right tuba auditiva and extends into the fossa of Rosenmueller and on to the dorsum of the soft palate. The catheter enters the tube with some difficulty but air may be made to enter the tympanum at 22 pounds pressure, the sound being dry.

These are the findings. It seems to me that some common cause has injured the right oculomotorius trochlearis and abducens nerves and of all of the divisions of the right trigeminus.

The paresis of the oculomotorius is evidenced by the nearly immobile pupil, the closed eyelid and the limited motions of the globe upward, downward and inward, while the proof of paresis of the abducens lies in the feeble motion of the eyeball outward. The proof of paralysis of the trochlearis and inferior oblique muscles has been made by Dr. Coleman as described. The interference with the functions of the entire right trigeminus is shown by the widespread paraesthesia, analgesia, spontaneous pain and numbness in the area of its distribution and the weakness of the muscles of mastication of the right half of the jaw. The optic nerve has also not escaped slight damage to its trunk between the chiasm and eye.

It is justifiable to connect the partial interference with the functions of the nerves mentioned with the diffuse swelling that occupies the right side of the nasopharynx and deforms the cartilaginous Eustachian tube. It is difficult to tell whether this swelling be neoplastic or inflammatory infiltration of the granulation tissue order. It has evidently caused the deafness by closure of the lumen of the Eustachian tube to all but strong currents of air.

I regard the swelling seen in the right tubal region as a part of a more extensive infiltration which extends up into the cranial cavity through the openings in the base of the skull situated at the apex of the pyramid (petrous portion) of the temporal bone. These openings are the carotid canal, the foramen lacerum medium and the foramen ovale which transmits the third division of the trigeminus nerve. This division descends close to the outer side of the Eustachian tube and it is this division which has suffered most injury as shown by the complete anaesthesia over the right half of the chin while the other parts of the affected area are merely numb.

In front of and close to the apex of the petrous portion of the temporal bone lies the cavernous groove for the cavernous sinus which is created by a folding of the dura mater. In close relation to this sinus, the trunk of the internal carotid artery and each other lie the third, fourth, fifth and sixth cranial nerves and the optic nerve, so that a common compressing agent might interfere with the functions of all of them. Nevertheless this compression so far has been moderate so that some of the nerves are not completely paralyzed.

The aspect of the swelling in the nasopharynx presents nothing characteristic. It forms a diffuse infiltration of the normal parts rather than a distinct tumor and there seems to be nothing that could be cut off for a microscopic finding. The conditions most likely to come in question are a gummatous or neoplastic infiltration of the region involved and it seems probable that the morbid process began in the cranial cavity and is invading the nasopharynx through the openings mentioned in the neighborhood of the tuba auditiva.

The patient's history and the lack of effect of the antisyphilitic treatment to which he was

subjected last winter according to his statement make lues unlikely as a cause.

Carcinoma sometimes begins as a deep-seated infiltration and takes a slow course and it is not impossible that such a condition is developing. The slightly enlarged glands at the angle of the jaw are not large enough to be of value as evidence however. One of the slow growing types of sarcoma is a more likely condition though sarcoma in the region involved usually develops rapidly.

I think that time will be needed to disclose the nature of the cause of the singular signs and symptoms of this case but I shall be greatly indebted to the members of the society for diagnostic suggestions. The treatment I employ has been merely palliative so far. The patient's pain is increasing and a nerve which was merely paretic two days ago, the branch of the right oculomotor to the levator palpebrae, has now completely lost its function. The motions of the right eyeball are also becoming rapidly more and more limited and its complete immobility is to be expected soon. The pathologic process therefore seems to be speedily gaining ground.

Discussion.

Dr. Otto J. Stein: I did not understand whether Dr. Freer made any mention in regard to the sphenoidal sinus or not, and whether there were any findings whatsoever in regard to the condition of that sinus.

Dr. Henry Gradle: Dr. Freer's case reminds me of a similar observation. A man came to me this January, about sixty years of age, well preserved, with paralysis of the externus and paresis of the internus of the right eye, and paralysis of externus of left eye, while the eyes themselves were otherwise normal. The man stated that he had defective hearing, particularly on the right side. I could not trace the condition of the recti muscles to any intracranial process, but continuing my investigation I found his breathing was not good, especially on the right side. On looking into the nostrils nothing could be seen except a slightly defective septum. The pharyngeal tonsils were enlarged, especially towards the right, and what appeared to be a diffuse swelling extended to the Eustachian tube of the right side. I suspected at once new growth, possibly tubercular.

There was slight infiltration of the apex of the right lung, but a few tubercle bacilli were found in the sputum.

In order to eliminate syphilis, a thorough course of anti-syphilitic treatment was carried out, but gave no results. The man was expecting to die, when he rallied suddenly, went South for a couple of months, and returned later in moderately good health. In the meantime, a lymph gland on the right side of the neck of walnut size had grown to be the size of a small apple. The growth of the pharynx had extended so that now on inspiration through the mouth one could see the right half of the soft palate pushing forwards, having the appearance almost like a case of quinsy at its height. I could not remove any post-pharyngeal tissue with the tenotome, as I tried to. The contour

was too smooth, so that my intention to have a microscopical examination of this tissue made was frustrated. Being unable to do anything more than to treat him in a palliative way, I turned him over to Dr. Pusey for X-ray treatment. His condition, to my surprise, has improved wonderfully under this treatment. The lymph node diminished materially in the course of three or four weeks. The swelling in the throat had not continued to increase as it had previously.

I was not sure that it had diminished in the visible part of the palate or at the roof of the pharynx, as far as I could examine it with the mirror, but he felt more comfortable and continued to improve for three or four weeks, after which I lost track of him. In all probability the case is one of diffuse carcinoma.

Dr. Freer (closing the discussion): In regard to the question concerning the sphenoidal sinus; I have not probed this sinus, as there seemed to be no indication for doing so. There has been no purulent discharge in either nostril whenever I have examined the patient and the location of the disorder does not indicate sphenoidal sinusitis. Nevertheless, I intend to follow Dr. Stein's suggestion, and to pass a probe into the sinus to make sure that there is no pus coming from it.

I am glad to learn that Dr. Gradle has had a patient whose symptoms were so nearly like those presented by mine and am interested to find that there was the same difficulty in determining the exact pathological cause.

Dr. Stein: I asked Dr. Freer a question because I know of a case that presented somewhat similar ocular symptoms which was relieved immediately by an opening made into the sphenoidal sinus.

Dr. Freer: Was there suppuration?

Dr. Stein: There was no sign of suppuration at the time. This opening was made simply for the purpose of experimentation. The anterior wall was chiseled and there was a free discharge of pus, after which the symptoms gradually disappeared.

Dr. Freer: Was there extensive paresis of the ocular muscles?

Dr. Stein: Not so extensive as in your case. The optic nerve of this case was affected. It was not my case, and I am not familiar with the details of it.

(Since the above discussion the sphenoidal sinus on the affected side has been entered and found to be normal. O. T. Freer.)

Dr. O. J. Stein reported a case of laryngeal tuberculosis, and exhibited specimen.

Dr. Edwin Pynchon exhibited a new tonsillotomy which was designed by him.

STOCK YARDS MEDICAL SOCIETY.

Dilatation of the Anal Sphincters.

By Charles J. Drueck, M. D., Chicago.

When preparing this paper I had misgivings lest I was taking up your time with apparently a very trivial procedure, but in looking through the textbooks on surgery and even

the authorities on rectal diseases I found very brief or no mention at all made of this subject about which even well-informed general practitioners are often uncertain as to the best method of procedure.

Divulsion of the sphincters, literally interpreted, means to tear or rend asunder and that is what usually occurs when the patient is chloroformed and the muscle stretched by introducing the thumbs through the anus and dragging them sideways until they touch the ischial tuberosities. Such brutal traumatism is seldom necessary in modern surgery. What we wish to accomplish in the majority of instances is simply to overcome the natural or exaggerated contractility of the sphincter that we may open the anus sufficiently for examination or operation. If this can be accomplished without a general anesthesia, it brings within the scope of office and ambulant treatment many cases which were formerly attended only in the hospital. It is my object to outline here a plan of treatment which in my hands has yielded thoroughly satisfactory results in properly selected cases, obviating the dangers of chloroform without adding any disadvantages or complications. As this method is applicable to both examination and treatment, I offer it as having a well defined field.

Stretching the sphincters forms an important step in the treatment of most rectal diseases because it produces certain anatomical changes and definite physiological results. Stretching a muscle also stretches the fine nerve filaments in its substance and produces a paralysis of these fine twigs. The action is the same as is produced when stretching the sciatic nerve. Localized inflammatory products are broken up and as a result sphincteric spasm, pruritis and hypersensitiveness are mechanically relieved. In many instances pent-up secretions are thus provided free drainage. If this traumatism is limited to the nerve branches in and about the sphincter, the regeneration of the nerve soon occurs and the paralysis is only temporary. If, however, the larger nerve trunks out toward the ischial fossa are injured, regeneration is more remote and it is possible for cicatrization and atrophy to occur in the muscle before new nerve is built up and the paralysis may be more or less permanent.

Every thorough examination of the rectum includes a digital exploration, and the introduction of the fingers puts the sphincters on sufficient tension to demonstrate many important things. The finger thoroughly anointed with white vaseline or olive oil (not glycerine, because that stimulates the bowel to evacuation) is gently insinuated with a boring motion, remembering the direction of the rectum; forward toward the pubes until the sphincters are passed and then backward toward the sacrum. As soon as the finger touches the sphincter the latter contracts spasmodically. If, however, the finger is held firmly against the anus for a minute the muscle relaxes and in many instances the fingers may proceed without dif-

ficulty. The sphincter is now slightly stretched and the degree of contraction, or bite, informs us of the tone or irritability of the muscle. This digital stretching is always essential before the specular examination in every new case, because it demonstrates not only the condition of the muscle itself but also determines many diseased conditions and thereby permits the operator to subsequently dilate the sphincter instrumentally without causing much pain in many instances. In new born infants stretching the sphincter with the obstetrician's little finger is one of the most powerful respiratory stimulants, and in older children it will be noted that the introduction of the enema tip is often sufficient stimulus to bring on defecation without the use of liquids.

If in a given case the finger has been introduced and the sphincter and the rectum found normally patulous, the anoscope or a speculum may be slowly introduced without causing pain and the lower rectum dilated enough for examination or treatment. If, however, certain diseased conditions exist which have caused an irritable and hypersensitive sphincter, the muscles will be found to bite the finger abnormally and the anus needs preparation. To temporarily overcome these conditions we have recourse to local anesthesia, a condition which may be produced by a number of agents, the most popular of which is cocaine. This drug, in weak solution, may be used with perfect safety so long as the total amount used at any one sitting is less than one-half grain.

By placing the hands on either buttock, the finger tips resting close to the anus, the external sphincter may be gradually drawn open (everted) until one-half inch of mucous membrane rolls out. This surface is then sprayed with a 4 per cent cocaine solution, to which is added one-half of 1 per cent of 1 in 1000 adrenalin solution. The buttock are now released and the anal canal treated by injecting 10 to 20 minims of the same solution from a short nozzleed piston syringe. The patient is then placed in a semi-recumbent position for about five minutes, until the full effect of the drug may be obtained.

The adrenalin solution in the mixture prolongs the anesthetic effect, limits the rapidity of absorption of the cocaine and lessens the venous congestion which otherwise sometimes produces an annoying tenesmus for several hours following this procedure. It may be well to add that the solution is always warmed to nearly the body heat before it is used, because warm solutions are more efficient than cold, and also that the use of normal salt solution instead of plain water increases the absorbability of the cocaine.

After waiting five minutes the surface is fully anesthetized muscle itself is not interfered with and we are now ready to begin the instrumental dilatation for examination or treatment just as well as we would in a normal unirritated anal canal.

This instrument, Kelly's calibrator, is warmed to about the body heat, thoroughly anointed with any lubricant except glycerine and gently pressed against the anus. By exercising a couple of pounds pressure the instrument is inserted with a boring motion. The sphincter can usually be dilated up to two inches in diameter in about five minutes. The pressure on the calibrator must be slight but steady. Any undue haste only excites spasm of the sphincter and retards our progress.

If in the case at hand the sphincters are very irritable it may be advisable at the first treatment to distend the fibers to only one inch, and at each subsequent visit to increase the distention. The object being to speedily stretch the muscle to a diameter considerably larger than is ever produced by any faecal mass and therefore, when the bowels are evacuated, the distention is relatively slight. Having dilated the anus as much as desired the calibrator should now be retained in situ for ten or fifteen minutes until the sphincteric grasp is released. When the sphincter has been thoroughly dilated the calibrator may be slowly withdrawn, the last half-inch of the instrument being withdrawn very slowly and crowded against the anterior quadrant of the sphincter. Firm pressure against the posterior wall of the anus with the examiner's free hand also prevents sudden spasm.

It occasionally happens that even with the use of cocaine a thorough dilatation at the first sitting is very painful. If the patient complains of pain the distention should be diminished to a point where it is fairly comfortable and the physician must content himself with a partial dilatation at the first treatment. The treatments in such a case should be repeated each day, gradually increasing the dilatation until the muscle is relaxed sufficiently for all purposes.

Case 1. Mr. H. S., a stock yards commission merchant, complained of sharp, cutting pain in rectum following defecation, itching at the anus and bowels constipated. Examination showed the anus to be tightly contracted. Digital exploration was too painful to be satisfactory to either patient or myself. The anus was sprayed and the cocaine injected as I have outlined above, and after waiting five minutes I completed my examination painlessly and satisfactorily.

When disease exists above the sphincters this same method may be followed, and when the calibrator is withdrawn the anoscope or speculum may be introduced easily and without exciting spasm. The anal canal or rectum may be examined or treated just as easily as if the patient were anesthetized, as plenty of room is obtained for the treatment of diseases of the lower inch and one-half of the bowel. In the treatment of internal hemorrhoids rectal ulcers, villous tumors or other conditions requiring minor operations or treatment upon the rectum the parts can usually be distended sufficiently without a general anesthetic, only it must be performed slowly and patiently.

In the early part of this paper I called your attention to the importance of digital examination preceding the instrumental dilatation, because it furnishes the examiner precise information regarding the tone or contractile power of the sphincter. If you can introduce your finger into a patient's rectum easily and without feeling the bite or spasm of the sphincter, be very chary about introducing a speculum and distending the anal canal, because what little contractile power is present may be easily dissipated and a permanent partial or complete paralysis result. Example:

Case II. Mrs. B., at the age of 26 years, was delivered instrumentally of a large boy. The perineum was ruptured, but was promptly repaired, the patient recovered and enjoyed good health, having complete control of the bowels. Four years later she was operated upon for hemorrhoids, and since that operation has had complete paralysis. The surgeon who operated informed me that he was positive no undue traumatism was used. I mention this case to show that where the nerve supply of the sphincters has been previously injured an instrumental dilatation may be fatal to good results and a previous digital examination is indispensable.

In operating within the rectum and particularly when it may be necessary to drag upon the parts, the nerve must be anesthetized as far back along its trunk as the traction will be appreciated, because a nerve may be perfectly numb at the point at which it is cut or clamped but very much alive one-half inch farther on, and if this sensitive part is dragged when examining it will be appreciated by the patient as being at the nerve and because the same fibers are affected. Therefore, if in dilating the sphincter it is necessary to move or stretch the deeper nerves, especially if exudation to inflammation extends outside of this muscle it will be necessary to thoroughly cocaineize the nerves outside of this area. In such cases infiltration of the deeper nerves is necessary.

Having discoursed at some length upon the advantages of dilatation, and hinted at operating upon, the anus under local anesthesia, allow me to remind you that this method has its limitations. While cocaine may relieve the sensations of pain, they do not remove the fear or terror of being operated upon, and a highly nervous or excited patient may not be able to keep quiet or calm while he is conscious and realizes that the surgeon is at work. In a number of such cases I have completely failed to obtain any reasonable benefit from cocaine. In selected cases, however, I believe this method brings within the field of office work many patients who would otherwise be confined to their bed for several days or weeks, and also those who object to an anesthetic or in whom its administration would be inadvisable and therefore continue for years with very painful and annoying ailments which might be promptly and easily relieved by their doctor.

599 East Forty-sixth Stret.

County and District Societies.

ADAMS COUNTY MEDICAL SOCIETY.

Regular meetings held in Quincy the second Monday of each month at 2 p. m. Membership 70.

Officers.

President.....Jno. A. Koch, Quincy
First Vice Pres.....J. M. Grimes, Camp Point
Second Vice Pres.....H. Hart, Quincy
Secretary.....Geo. E. Rosenthal, Quincy
Treasurer.....R. J. Christie, Quincy
Censors—Jos. Robbins, L. B. Ashton, E. B. Montgomery, Quincy.

Delegate to the State Society, L. H. A. Nickerson, Quincy.

Alternate to the State Society, R. J. Christie, Jr., Quincy.

The regular monthly meeting of the Adams County Medical Society was held September 11th, with President Koch in the chair.

Those present were: Drs. Ashton, Christie, Hart, Koch, Knox, Knapheide, Montgomery, Pfeiffer, Rosenthal, Shawgo, Sigsbee, Wells, G. G. Williams, W. W. Williams.

Dr. John A. Koch presented a case of **Bradycardia**; Dr. W. W. Williams gave a report on a case of **Carcinoma of the Pylorus, Treated by Gastro-Enterostomy**, and Dr. Koch read the following summary of the **Eighth Decennial Revision of the Pharmacopoeia of the United States**.

The Eighth Decennial Revision of the Pharmacopoeia of the United States.

John A. Koch, M. D., Quincy, Ill.

Beginning with the first of September, 1905, the drugs and preparations of Pharmacopoeia have become official. It should have been issued two years ago, but the great amount of work necessary to produce this eighth decennial revision caused the delay. The alterations that have been made amounts almost to a revolution. The important features that have been adopted that are of interest to physicians are the Purity Standard Requirements which limit the quantity of innocuous impurities in substances which are used solely for medicinal purposes, and when professedly bought, sold or dispensed as such; assay processes of an increased number of potent drugs and preparations made therefrom; the statement of average approximate doses for adults in the metric system with the approximate equivalents in the ordinary weights or measures in parenthesis, but the Committee on Revision makes the distinct declaration "that it does not intend to have the doses regarded as obligatory on the physician or forbidding him to exceed them whenever in his judgment this seems advisable." The insertion of average doses is intended to furnish a guide to those who are inexperienced in prescribing or who desire to use a drug or preparation with which they are unfamiliar.

In this revision 155 articles were dismissed and 121 were added. Among the latter are a number of synthetical products of definite composition which have been in common use by the profession, the identity, purity or strength of which can be determined: one serum product and two animal products. I wish to speak briefly of the articles admitted.

Acetone was admitted chiefly for the purpose of replacing Ether in the preparation of Oleo-resins, Acetone being one-third as expensive as Ether.

Under the name **Acetphenetidin** Phenacetine obtains a place, one of our best known coal-tar products.

Camphoric Acid is a valuable remedy that has a distinct power of checking the colliquative sweats of phthisis. It has a selective action on the mucous membrane, indicated in diseases of the air passages and genito-urinary tract.

Diluted Hydriodic Acid has been introduced to facilitate the preparation of Syrup of Hydriodic Acid.

Hypophosphorous Acid is used for the manufacture of the Diluted Acid.

Trichlor-Acetic Acid is a remedy much used as an escharotic in nose and throat work.

Aconitine, the powerful Alkaloid of Aconite, has been given a place; it should not be confounded with the Amorphous Aconitine that enters the Alkaloidal Granules on the market.

Lanoline is entered under the name of **Adeps Lanae**, it is the anhydrous wool-fat.

Ethyl Carbamate is the pharmacopoeial name for Urethane, a synthetic of great value in insomnia, eclampsia, nervous excitement and tetanus.

Ethyl Chloride, the valuable local anaesthetic, has been given recognition.

Ammonium Salicylate, much thought of by many in febrile rheumatic conditions and bronchitis.

Antipyrine is now a pharmacopoeial preparation under that name.

Witch-hazel Extract has been added under the name of **Hamamelis Water**, a popular preparation of questionable value.

Under the title of **Aquae** a general formula is given for the preparation of medicated waters from volatile oils.

Benzaldehyde is artificial Oil of Bitter Almonds minus the Hydrocyanic Acid.

Purified Petroleum Benzin is used principally for dissolving fats from and deodorizing certain drugs.

Benzo-Sulphinide is the pharmacopoeial name for Saccharin.

Berberis has also been added, strongly recommended as an alterative, laxative, tonic and diuretic.

Bismuth Subgallate and **Subsalicylate** have been taken in; both are well-known preparations.

Bromoform, a very valuable preparation, is *Pertussis*.

We can now make our own **Kaolin Paste**, a fine formula is given under the title of **Cataplasma of Kaolin**.

Compound Rosin Cerate, it is used as a stimulating application on indolent ulcers.

Chloral-Formamide, commonly known as **Chloralamide**, is listed. A splendid hypnotic in cardiac affections.

The alkaloid **Cocaine** has been added.

Cinnamic Aldehyde is artificial Oil of *Cinnamon*.

Pharmacopoeial recognition is given **Codeine Phosphate** and **Sulphate**. Both are well known. **Colchicine** the active principle of *Colchicum*.

Cresol has been added for the preparation of **Compound Solution of Cresol**.

Elixir Adjuvans is a splendid mixture for the administration of various substances of a bitter and nauseous nature.

We now have an official **Elixir of Iron, Quinine and Strychnine Phosphates**, each fluidrachm containing one grain of Soluble Ferric Phosphate, one-half grain of Quinine, and 1-60 grain of Strychnine.

An excellent formula is given for the preparation of **Adhesive Plaster**, the irritation of the skin by this plaster is reduced to a minimum on account of the large proportion of **Lead Plaster** it contains.

Three new Emulsions have been added, namely: **Emulsion of Cod Liver Oil**, **Emulsion of Cod Liver Oil with Hydrophosphites** and **Emulsion of Oil with Turpentine**. They are well worth the consideration of the profession.

Eugenol is artificial Oil of *Cloves*.

Extract of Malt is now pharmacopoeial, also **Extracts of Cascara Sagrada**, **Scopolia**, **Stramonium** and **Sumbul**.

The following **Fluid Extracts** have received recognition: **Fluid Extracts of Berberis, Euonymus, Pomegranate, Lobelia, Quercus, Quillaja, Aromatic Cascara Sagrada, Sanguinaria, Squill, Scopolia, Stavesacre, Stramonium** and **Sumbul**. They are made with Alcohol or Diluted Alcohol, with the exception of **Lobelia, Sanguinaria** and **Squill**; their menstruum is Acetic Acid, a matter to be borne in mind when prescribing.

Gambir has been added to replace *Catechu*.

The great demand therapeutically for a **Gelatin** of standard purity has caused that substance to be made official.

A formula for **Glycerinated Gelatin** is given; it is used for suppositories when Oil of Theobroma is not desired or contra-indicated.

The **Dessicated Supra-Renal** and **Thyroid Glands** are the two new animal products, the virtues of which are well known.

Glycerite of the Phosphates of Iron, Quinine and Strychnine is used for the preparation of the **Syrup of the Phosphates of Iron, Quinine and Strychnine**.

Guaicol has been admitted, also **Guaicolic Carbonate**, known commonly as *Duotal*.

Hamamelis Bark is used in the preparation of **Hamamelis Water**.

Hexa-Methylen-Amina is the pharmacopoeial name for the well-known urinary antiseptic, sold on the market under the names of **Urotropine, Formin, Cystogen**, etc.

Homatropine Hydrobromide is now official, also **Hydrastine** and **Iodol**, an odorless Iodine preparation having the virtues of Iodoform, but none of its odor.

Kaolin is used for the preparation of **Cataplasma of Kaolin**.

A formula for **Liquor Antisepticus** is given to meet the demand for a preparation on the order of *Listerine*, etc.

Compound Solution of Cresol is similar to **Lysol** on the market, and is especially useful in obstetrical work.

Solution of Formaldehyde is recognized.

Compound Solution of Sodium Phosphate, each fluidrachm represent 60 grains of Sodium Phosphate.

Effervescent Magnesium Sulphate is an elegant preparation, the most fastidious can find no fault with this.

Malt is admitted for the preparation of **Extract of Malt**.

Manganese Hypophosphite is especially useful in the anaemia of scrofula and chlorosis.

Methyl-Thionine Hydrochloride is **Methylene Blue**.

The **Oleates of Atropine, Cocaine and Quinine** have been admitted.

Granulated Opium, it is used in that form now for the *Tinctures of Opium*.

Paraffin of a standard purity is now official.

Pelletierine Tannate is the well-known taenicide.

Petrolatum Album is the *White Vaseline* and *Cosmoline* on the market.

Carbolic Acid is now known officially as **Phenol**, and as it is prescribed so often by volume **Liquefied Phenol** has been introduced.

Pilocarpine Nitrate has practically the same therapeutic property as the Hydrochloride.

Compound Laxative Pills bear close resemblance in therapeutic action to the *Lapactic Pills*.

Pills of Podophyllum, Belladonna and Capsicum have been made official; each pill contains $\frac{1}{4}$ grain of Resin of Podophyllum, $\frac{1}{8}$ grain of Extract of Belladonna and $\frac{1}{2}$ grain of Capsicum.

The pharmacopoeia has recognized the demand for an **Acetanilide Mixture**. **Compound Acetanilide Powder** is composed of Acetanilide grains 7, Caffeine 1 grain and Sodium Bicarbonate 2 grains.

Quinine Salicylate is now official.

Saw Palmetto gains entrance under the name of *Sabal*.

Safrolum is artificial Oil of *Sassafras*.

Scopolia and **Scopolamine Hydrobromide** have been admitted; the latter is chemically identical with **Hyoscyne Hydrobromide**.

Serum Anti-Diphthericum is the only Serum admitted; the United States Public Health and Marine Hospital Service established a standard strength.

Exsiccated Sodium Arsenate is used for the preparation of Solution of Sodium Arsenate.

The **Mono-Hydrated Sodium Carbonate** has taken the place of Sodium Carbonate and **Exsiccated Sodium Carbonate** of the 1890 Pharmacopoeia.

Sodium Citrate, Effervescent Sodium Phosphate and Exsiccated Sodium Phosphate are now official.

The demand for **Strontium Salicylate** has caused it to be recognized.

Strophanthin, the glucoside of *Strophanthus*, and **Strychnine Nitrate** have a place.

Sulphon-Ethyl-Methane (Trional) and **Sulphon-Methane** (Sulphonal) are well known.

There is an excellent formula for **Compound Syrup of Hydrophosphites**; each fluidrachm contains 1-128th of a grain of Strychnine.

Talc and Purified Talc are listed.

Aristol is known officially as **Thymol Iodide**. Three new tinctures have been admitted, namely: **Compound Tincture of Gambir, Tinctures of Lemon Peel and Stramonium**.

Troches of Gamir replace those of Catechu.

Four new ointments are noticed: **Ointment of Boric Acid, Stramonium Ointment, Diluted Mercurial Ointment and Ointment of Zinc Stearate**.

Vanillin, obtained naturally from Vanilla or made synthetically, has a place.

Wine of Coca is now official.

Zinc Sulpho-Carbolate, under the title **Zinc Phenol-Sulphonate**, is admitted, also **Zinc Stearate**.

The Committee of Revision adopted the recommendations made at an international conference in 1902 in the City of Brussels to make all tinctures of potent drugs of a uniform strength of 10 per cent., **Tincture of Aconite** is therefore reduced from 35 per cent., **Tincture of Veratrum** from 40 per cent.; roughly stated, tinctures have been divided into two classes, potent tinctures 10 per cent., other tinctures 20 per cent.

The arsenical solutions have a standard of 1 per cent., while fluid extracts continue as heretofore, 1 cc., representing 1 gram of the drug.

Syrup of Ferrous Iodide has been reduced from 10 per cent. to 5 per cent., the dose must be increased accordingly.

The nomenclature of some drugs has been changed, notably **Arsenic Trioxide** for **Arsenous Acid**, **Chromium Trioxide** for **Chromic Acid**, **Phenol** for **Carbolic Acid**, etc.

We are particularly fortunate in having such a splendid Pharmacopoeia; it is a Pharmacopoeia of Pharmacopoeias; it is thoroughly up-to-date, and physicians will be well rewarded in studying its contents.

It is an undeniable fact that the most serious shortcomings of the profession in matters therapeutical might be largely eliminated were we to rely more fully upon references to this work.

While it is true that the Pharmacopoeia provides no information directly concerning therapeutics, yet it contains very full information and of the most reliable character concerning materia medica, fundamental to therapeutics, in turn, the highest teachings of therapeutics constitute its basis as to preparations and dosage and as to a majority of the drugs treated.

CLARK COUNTY MEDICAL SOCIETY.

Regular meetings are held at Marshall, quarterly.

Membership 12.

Officers.

PresidentDr. Rowland
Vice-PresidentDr. Ryerson
Secretary-TreasurerL. J. Weir
DelegateDr. Hall
Censors.....Drs. Hall, Prewett, H. W. Haslit
Committee on Program and Scientific work—
Drs. Duncan, Bradley and L. J. Weir.

The Clark County Medical Society met in regular session in the Court House at 2 p. m., October 12, 1905, President Rowland in the chair.

Members present: Bradley, Ryerson, Rowland, Smith, Duncan and L. J. Weir. Visitors: Dr. L. A. Burnside and Dr. C. Barlow, Councilor for this district.

L. J. Weir presented a paper on **Surgery in the Country**, describing the simple though efficient preparation for operation in any home with heat, hot water and bichloride solution and arguing that few instruments are really needed; that the exact diagnosis can be arrived at by the general practitioner with the means now at his command, and that the country physician can and should do his own operating in most all cases.

The subject was discussed by all present. Broadly considered, that the general practitioner should do what surgery comes in his practice; that cases going away for operation or calling a stranger to operate appears to the people to show that the home physicians could not do the operating.

Burnside stated that one must be posted in anatomy and cleanliness in order to practice medicine and do obstetrical and emergency practice, and knowing anatomy and surgical cleanliness, he can and should do other surgical operations.

Smith described some of his observations.

Ryerson thought medicine and surgery two separate fields of work, both being too large for one man to cultivate; that one physician in about six or eight in a community should do the surgery.

Duncan's views were like Ryerson's, and he had always found city surgeons were gentlemen, and that it was rather easy to send patients to them.

Barlow considered that only some of the physicians in a community should do the operating, or the main portion of it; that physicians should take a post-graduate course of

lectures every few years, and some of them should give special attention to surgery while there; that only too often, however, doctors do not receive enough money for their arduous work to do this; that in his county operations are done mostly by two local men, but others do operations when circumstances require it.

Rowland said in his way of looking at it surgeons were born, not made; that patients will object to a home man doing what they feel he could do but would rather a stranger would operate on them, and would rather go to an institution for operation, but he would be willing to have his cases operated on by other local men, as he does not wish to do much surgery, not being inclined that way; feels that he could do it, but does not wish to give the attention to it which it requires.

Weir closed the discussion.

New members: The rules of the Society were suspended and Dr. L. A. Burnside was elected a member at once.

Dr. C. Barlow made an interesting talk, stating that the organization of the profession must be kept up; that every county must keep up its local society; that every legal physician should be a member, as all medical schools require the same studies almost that if a man will be a gentleman that is all that should be required.

Bradley asked how he would suggest to get the doctors in our county to attend the society. He thought the physicians of Marshall might give a banquet and send special invitations to all not in the habit of attending, and go after them in a way to get them interested.

Ryerson suggested that the public might be invited to attend a meeting and be given a paper of interest to them (on prevention of disease, for instance), by some local man, and get them to see that the medical society is a necessity and for their benefit, so they will require their doctor to attend, as they require their school teacher to attend teachers' meetings.

Pneumonia was chosen as a subject for next meeting, and Dr. Bradley was selected to prepare the paper.

DECATUR MEDICAL SOCIETY.

Regular meetings are held in the Decatur Club Rooms the fourth Tuesday of each month
Membership 62.

Officers.

President, Everett J. Brown.....Decatur
Vice-President, Ellen F. Grimes.....Decatur
Secretary-Treasurer, Benjamin Bachrach.....
.....Decatur
Board of Censors: S. E. McClelland, Lynn M. Barnes, Cass Chenoweth.

Tuesday, September 26th, 1905, the regular monthly meeting of the Decatur Medical Society was held in the Decatur Club Rooms at 8 o'clock p. m.

The meeting was in honor of William Osler, the greatest living physician.

Dr. J. N. Randall read a paper on *The Life, Work and Influence of Dr. Osler*, which, from

its thoroughness, received the complete approval of the society.

Dr. W. J. Chenoweth next read a paper, his subject being *Chloroforming Sexagenarii*. As the Doctor has practiced medicine for over fifty years his paper was doubly interesting and appreciated.

Dr. H. C. Jones completed the program by reading some *Selections from Osler*.

Some Selections From Osler.

Few men live lives of more devoted self-sacrifice than the family physician, but he may become so completely absorbed in work that leisure is unknown; he has scarce time to eat or sleep, and, as Dr. Drummond remarks in one of his poems, "He's the only man, I know, don't get no holiday." There is danger in this treadmill life lest he lose more than health and time and rest—his intellectual independence. More than most men he feels the tragedy of isolation—that inner isolation so well expressed in Matthew Arnold's line, "We mortal millions live alone."

The circumstances of life would mould him into a masterful, self-confident, self-centered man, whose worst faults often partake of his best qualities. The peril is that should he cease to think for himself he becomes a mere automaton, doing a penny-in-the-slot business, which places him on a level with the chemist's clerk who can hand out specifics for every ill, from the "pip" to the pox. The salt of life for him is a judicious skepticism, not the coarse, crude form, but the sober sense of honest doubt expressed in the maxim of the sly old Sicilian, Epicharmus, "Be sober and distrustful; these are the sinews of the understanding." A great advantage, too, of a sceptical attitude of mind is, as Green, the historian, remarks, "One is never very surprised or angry to find that one's opponents are in the right." It may keep him from self-deception and from falling into that medical slumber into which so many drop, deep as the theological slumber so lashed by Erasmus, in which a man may write letters, debauch himself, get drunk, and even make money—a slumber so deep at times that no torpedo-touch can waken him.

It may keep the practitioner out of the clutches of the arch enemy of his professional independence—the pernicious literature of our camp followers, a literature increasing in bulk, in meretricious attractiveness, and in impudent audacity. To modern pharmacy we owe much, and to pharmaceutical methods we shall owe much more in the future, but the profession has no more insidious foe than the large borderland pharmaceutical houses. No longer an honored messmate, pharmacy in this form threatens to become a huge parasite, eating the vitals of the body medical. We all know only too well the bastard literature which floods the mail, every page of which illustrates the truth of the axiom, the greater the ignorance the greater the dogmatism. Much of it is advertisements of nostrums foisted on the profession by men who trade on the innocent credulity of the regular physician, quite as much as any quack preys on the gullible public. Even the most respecta-

ble houses are not free from this sin of arrogance and ignorant dogmatism in their literature. A still more dangerous enemy to the mental virility of the general practitioner is the "drummer" of the drug house. While many of them are good, sensible fellows, there are others, voluble as Cassio, impudent as Autolycus and senseless as Caliban, who will tell you glibly the virtues of extract of the coccygeal gland in promoting pineal metabolism, and are ready to express the most emphatic opinions on questions about which the greatest masters of our art are doubtful. No class of men with which we have to deal illustrates more fully that greatest of ignorance—the ignorance which is the conceit that a man knows what he does not know; but the enthrallment of the practitioner by the manufacturing chemist and the revival of a pseudoscientific polypharmacy are too large questions to be dealt with at the end of an address.

In no profession does culture count for so much as in medicine, and no man needs it more than the general practitioner, working among all sorts and conditions of men, many of whom are influenced quite as much by his general ability, which they can appreciate, as by his learning, of which they have no measure. The day has passed for the "practice of physic" to be like Mr. Robert Levet, Dr. Johnson's friend, "Obscurely wise and coarsely kind." The wider and freer a man's general education the better practitioner is he likely to be, particularly among the higher classes to whom the reassurance and sympathy of a cultivated gentleman of the type of Eryximachus, may mean much more than pills and potions. But what of the men of the type of Mr. Robert Levet, or "Ole Docteur Fiset," whose virtues walk a narrow round, the men who do the hard general practices in the poorer districts of the large cities, in the factory towns and in the widely scattered rough agricultural regions—what, I hear you say, has culture to do with them? Everything! It is the bichloride which may prevent the infection and may keep a man sweet and whole amid the most debasing surroundings. Of very little direct value to him in his practice—though the poor have a pretty keen appreciation of a gentleman—it may serve to prevent the degeneration so apt to overtake the overworked practitioner, whose nature is only too prone to be subdued like the dyer's hand to what it works in.

Whether a man will treat his professional brethren in a gentlemanly way or in a narrow illiberal spirit is partly a matter of temperament, partly a matter of training. If we had only to deal with one another the difficulties would be slight, but it must be confessed that the practice of medicine among our fellow creatures is often a testy and choleric business. When one has done his best or when a mistake has arisen through a lack of special knowledge, but more particularly when, as so often happens, our heart's best sympathies have been engaged, to be misunderstood by the patient and his friends, to have evil motives imputed and to be maligned, is too much for human

endurance and justifies a righteous indignation. Women, our greatest friends and our greatest enemies, are the chief sinners, and while one will exhaust the resources of the language in describing our mistakes and weaknesses, another will laud her pet doctor so indiscriminately that all others come under a sort of oblique condemnation. "*Foeminae sunt medicorum tubae*" is an old and true saying. It is hard to say whether as a whole we do not suffer just as much from the indiscriminate praise. But against this evil we are helpless. Far otherwise, when we do not let the heard word die; not to listen is best, though that is not always possible, but silence is always possible, than which he have no better weapon in our armory against evil-speaking, lying and slandering. The bitterness is when the tale is believed and a brother's good name is involved. Then begins the worst form of ill-treatment that the practitioner receives—that at his own hands! He allows the demon of resentment to take possession of his soul, when five minutes' frank conversation might have gained a brother. In a small or a large community what more joyful than to see the brethren dwelling together in unity. The bitterness, the rancour, the personal hostility which many of us remember in our younger days, has been largely replaced by a better feeling and while the golden rule is not always as it should be, our code of ethics, we have certainly become more charitable the one towards the other.

Never has the outlook for the profession been brighter. Everywhere the physician is better trained and better equipped than he was twenty-five years ago. Disease is understood more thoroughly, studied more carefully and treated more skillfully. The average sum of human suffering has been reduced in a way to make the angels rejoice. Diseases familiar to our fathers and grandfathers have disappeared, the death rate from others is falling to the vanishing point, and public health measures have lessened the sorrows and brightened the lives of millions. The vagaries and whims, lay and medical, may neither have diminished in number nor lessened in their capacity to distress the faint-hearted who do not appreciate that to the end of time people must imagine vain things, but they are dwarfed by comparison with the colossal advance of the past fifty years.

In too many towns and smaller communities miserable factions prevail, and bickerings and jealousies mar the dignity and usefulness of the profession. So far as my observation goes, the fault lies with the older men. The young fellow, if handled aright and made to feel that he is welcomed and not regarded as an intruder to be shunned, is only too ready to hold out the hand of fellowship. The society comes in here as professional cement. The meetings in a friendly social way lead to a free and open discussion of differences in a spirit that refuses to recognize differences of opinion on the non-essentials of life as a cause of personal animosity or ill-feeling. An attitude of mind habitually friendly, more particularly to the young man, even though you feel him to be the David to

whom your kingdom may fall, a little of the old-fashioned courtesy which makes a man shrink from wounding the feelings of a brother practitioner—in honor preferring one another; with such a spirit abroad in the society and among its older men, there is no room for envy, hatred, malice or any uncharitableness. It is the confounded tales of patients that so often set us by the ears, but if a man makes it a rule never under any circumstances to believe a story told by a patient to the detriment of a fellow practitioner—even if he knows it to be true!—though the measure he he will have the satisfaction of knowing that he has closed the ears of his soul to ninety-nine lies, and to have missed the hundredth truth will not hurt him. Most of the quarrels of doctors are about non-essential, miserable trifles and annoyances—the pinpricks of practice—which would sometimes try the patience of Job, but the good-fellowship and friendly intercourse of the medical society should reduce these to a minimum.

The well-conducted medical society should represent a clearing house, in which every physician of the district would receive his intellectual rating, and in which he could find out his professional assets and liabilities. We doctors do not "take stock" often enough, and are very apt to carry on our shelves stale, out-of-date goods. The society helps to keep a man "up to the times," and enables him to refurnish his mental shop with the latest wares. Rightly used, it may be a touchstone to which he can bring his experiences to the test and save him from falling into the rut of a few sequences. It keeps his mind open and receptive and counteracts that tendency to premature senility which is apt to overtake a man who lives in a routine. Upon one or two specially valuable features of the society I may dwell for a moment or two.

For the crass therapeutic credulity, so widespread today, and upon which our manufacturing chemists wax fat, there is no more potent antidote than the healthy scepticism bred of long study in the post-mortem room. The new pathology, so fascinating and so time-absorbing, tends, I fear, to grow away from the old morbid anatomy, a training in which is of such incalculable advantage to the physician. It is a subject which one must learn in the medical school, but the time assigned is rarely sufficient to give the student a proper grasp of the subject. The younger men should be encouraged to make the exhibition of specimens part of the routine work of each meeting. Something may be learned from the most ordinary case if it is presented with the special object of illustrating the relation of disturbed function to altered structure. Of still greater educational value is the clinical side of the society. No meeting should be arranged without the presentation of patients, particularly those illustrating rare and unusual forms of disease. Many diseases of the skin and of the joints, a host of nervous affections, and many of the more remarkable if general maladies, as myxoedema, cretinism, achondroplasia, etc., are seen so rarely and

yet are so distinctive, requiring only to be seen to be recognized, that it is incumbent upon members to use the society to show such cases. A clinical evening devoted to these rarer affections is of very great help in diffusing valuable knowledge. The importance of a clinical demonstration was never better illustrated than at the International Congress in London in 1881, when Dr. Ord and others presented one morning at the Clinical Museum a group of cases of myxoedema. There were men from all parts of the world, and the general recognition of the disease outside of England dates from that meeting. The physiognomy of disease is learned slowly, and yet there are a great many affections which cannot be recognized, sometimes at a glance, more often by careful inspection, without any history. The society should be a school in which the scholars teach each other, and there is no better way than by the demonstration of the more unusual cases that happen to fall in your way. I have gone over my history cards of private patients brought or sent to me by last-year physicians, in which the disease was not diagnosed through recognizable *de-visu*. Gout, spondylitis deformans, preataxic tabes (myosis, ptosis, etc.), Graves' disease, Parkinson's disease, anorexia nervosa, Raynaud's disease, pernicious anaemia, spastic diplegia, spastic hemiplegia and cyanosis of chronic emphysema were on the list. Some of these are rare diseases, but at an active society in the course of a few years every one of them could be demonstrated.

While medicine is to be your vocation, or calling, see to it that you have also an avocation—some intellectual pastime which may serve to keep you in touch with the world of art, of science, or of letters. Begin at once the cultivation of some interest other than the purely professional. The difficulty is in a selection and the choice will be different according to your tastes and training. No matter what it is—but have an outside hobby. For the hard-working medical student it is perhaps easiest to keep up an interest in literature. Let each subject in your year's work have a corresponding outside author. When tired of anatomy refresh your mind with Oliver Wendell Holmes; after a worrying subject in physiology, turn to the great idealists, to Shelley or Keats for consolation; when chemistry distresses the soul, seek peace in the great pacifier, Shakespeare; and when the complications of pharmacology are unbearable, ten minutes with Montaigne will lighten the burden. To the writings of one old physician I can urge your closest attention. There have been, and, happily, there are still in our ranks notable illustrations of the intimate relations between medicine and literature. but in the group of literary physicians Sir Thomas Browne stands pre-eminent. The *Religio Medici*, one of the great English classics, should be in the hands—in the hearts, too—of every medical student. As I am on the confessional today, I may tell you that no book has had so enduring an influence on my life. I was introduced to it by my first teacher, the Rev. W. A. Johnson, Warden and Founder of the

Trinity College School and I can recall the delight with which I first read its quaint and charming pages. It was one of the strong influences which turned my thoughts towards medicine as a profession, and my most treasured copy—the second book I ever bought—has been a constant companion for thirty-one years—comes *vivae viteque*. Trite but true, is the comment of Seneca, "If you are fond of books you will escape the ennui of life, you will neither sigh for evening, disgusted with the occupations of the day—nor will you live dissatisfied with yourself or unprofitable to others."

The New School of Medicine.

The nineteenth century has witnessed a revolution in the treatment of disease, and the growth of a new school of medicine. The old schools—regular and homeopathic—put their trust in drugs, to give which was the alpha and the omega of their practice. For every symptom there were a score or more of medicines—vile, nauseous compounds in one case, bland, harmless dilutions in the other. The characteristic of the new school is firm faith in a few good, well-tried drugs, little or none in the great mass of medicine still in general use. Imperative drugging—the ordering of medicine in any and every malady—is no longer regarded as the chief function of the doctor. Naturally, when the entire conception of the disease was changed, there came a corresponding change in our therapeutics. In no respect is this more strikingly shown than in our present treatment of fever—say, of the common typhoid fever. During the first quarter of a century the patients were bled, blistered, purged and vomited, and dosed with mercury, antimony and other compounds to meet special symptoms. During the second quarter the same, with variations in different countries. After 1850 bleeding became less frequent, and the experiments of the Paris and Vienna schools began to shake the belief in the control of fever by drugs. During the last quarter sensible doctors have reached the conclusion that typhoid fever is not a disease to be treated with medicines, but that in a large proportion of cases, diet, nursing and bathing meet the indications. There is active, systematic, careful, watchful treatment, but not with drugs. The public has not yet been fully educated to this point, and medicines have sometimes to be ordered for the sake of their friends, and it must be confessed that there are still in the ranks of the antiques who would insist on a dose of some kind every few hours.

The battle against poly-pharmacy, or the use of a large number of drugs (of the action of which we know little, yet we put them into bodies of the action of which we know less), has not been fought to a finish. There have been two contributing factors on the side of progress—the remarkable growth of the sceptical spirit fostered by Paris Vienna and Boston physicians, and, above all, the valuable lesson of homeopathy, the infinitesimals of which certainly could not do harm, and quite as certainly could not do good; yet nobody has ever claimed that the mortality among homeopathic practitioners was greater

than among those of the regular school. A new school of practitioners has arisen which cares nothing for homeopathy and less for so-called allopathy. It seeks to study, rationally and scientifically, the action of drugs, old and new. It is more concerned that a physician shall know how to apply the few great medicines which all have to use, such as quinine, iron, mercury, iodide of potassium, opium and digitalis, than that he should employ a multiplicity of remedies the action of which is extremely doubtful.

One of the most striking characteristics of the modern treatment of disease is the return to what used to be called the natural methods—diet, exercise, bathing and massage. There probably never has been a period in the history of the profession when the value of diet in the prevention and the cure of disease was more fully recognized. Dyspepsia, the besetting malady of this country, is largely due to improper diet, imperfectly prepared and too hastily eaten. One of the great lessons to be learned is that the preservation of health depends in great part upon food well cooked and carefully eaten. A common cause of ruined digestion, particularly in young girls, is the eating of sweets between meals and the drinking of the abominations dispensed in the chemists' shops in the form of ice-cream sodas, etc. Another frequent cause of ruined digestion in business men is the hurried meal at the lunch counter. And a third factor, most important of all, illustrates the old maxim that more people are killed by over-eating and drinking than by the sword. Sensible people have begun to realize that alcoholic excesses lead inevitably to impaired health. A man may take four or five drinks of whiskey a day, or even more, and thinks perhaps that he transacts his business better with that amount of stimulant; but it only too frequently happens that early in the fifth decade, just as business or political success is assured, Bacchus hands in heavy bills for payment, in the form of serious disease of the arteries or of the liver, or there is a general break-down. With the introduction of light beer there has been not only less intemperance, but a reduction in the number of cases of organic disease of the heart, liver and stomach caused by alcohol. While temperance in the matter of alcoholic drinks is becoming a characteristic of Americans, intemperance in the quantity of food taken is almost the rule. Adults eat far too much, and physicians are beginning to recognize that the early degenerations, particularly of the arteries and of the kidneys, leading to Bright's disease, which were formerly attributed to alcohol, are due in large part to too much food.

A third noteworthy feature in modern treatment has been a return to psychical methods of cure, in which **faith in something is suggested to the patient**. After all, faith is the great lever of life. Without it, man can do nothing; with it, even with a fragment, as a grain of mustard-seed, all things are possible to him. Faith in us, faith in our drugs and methods, is the great stock in trade of the profession. In one pan of the balance, put the pharmacopœias of the world, all the editions from Dioscorides to the last

issue of the United States Dispensatory; heap them on the scales as did Euripides his books in the celebrated contest in the "Frogs;" in the other put the simple faith with which from the days of the Pharaohs until now the children of men have swallowed the mixtures these works describe, and the bulky tomes will kick the beam. It is the aurum potable, the touchstone of success in medicine. As Galen says, confidence and hope do more good than physic—"he cures most in whom most are confident."

While we doctors often overlook or are ignorant of our own faith cures, we are just a wee bit too sensitive about those performed outside our ranks. We have never had, and cannot expect to have, a monopoly in this panacea, which is open to all, free as the sun, and which may make of every one in certain cases, as was the Lacedemonian of Homer's day, "a good physician out of Nature's grace." Faith in the god or in the saints cures one, faith in little pills another, hypnotic suggestion a third, faith in a plain common doctor a fourth. In all ages the prayer of faith has healed the sick, and the mental attitude of the suppliant seems to be of more consequence than the powers to which the prayer is addressed. The cures in the temples of Aesculapius, the miracles of the saints, the remarkable cures of those noble men, the Jesuit missionaries, in this country, the modern miracles at Lourdes and at St. Anne de Beaupre in Quebec, and the wonder-workings of the so-called Christian Scientists, are often genuine, and must be considered in discussing the foundations of therapeutics. We physicians use the same power every day. If a poor lass, paralyzed apparently, helpless, bed-ridden for years, comes to me, having worn out in mind, body and estate a devoted family; if she in a few weeks or less, by faith in me, and faith alone, takes up her bed and walks, the saints of old could not have done more, St. Anne and many others can scarcely today do less. We enjoy, I say, no monopoly in the faith business. The faith with which we work, the faith, indeed, which is available today in everyday life, has its limitations. It will not raise the dead; it will not put in a new eye in place of a bad one (as I did to an Iroquois Indian boy for one of the Jesuit fathers), nor will it cure cancer or pneumonia, or knit a bone; but in spite of these nineteenth-century restrictions, such as we find it, faith is a most precious commodity, without which we should be very badly off.

One mode of faith-healing in modern days, which passes under the remarkable name of Christian Science, is probably nothing more than mental suggestion under another name. "The patient is told to be calm, and is assured that all will go well; that he must try to aid the healer by believing that what is told him is true. The healer then, quietly but firmly, asserts and reiterates that there is no pain, no suffering, that it is disappearing, that relief will come, that the patient is getting well." This is precisely the method which Bernheim used to use with such success with his hypnotic patients at Nancy, iterating and reiterating, in a most wearisome way, that the disease would disap-

pear and the patient would feel better. As has been pointed out by a recent writer (Dr. Harry Marshall), the chief basis for the growth of Christian Science is that which underlies every popular fallacy: "Oliver Wendell Holmes outlined very clearly the factors concerned, showing (a) how easily abundant facts can be collected to prove anything whatsoever; (b) how insufficient 'exalted wisdom, immaculate honesty, and vast general acquirements' are to prevent an individual from having the most primitive ideas upon subjects out of his line of thought; and, finally, demonstrating 'the boundless credulity and excitability of mankind upon subjects connected with medicine.'"

And in closing, may I say a few words to the younger practitioners in the audience whose activities will wax nor wane with the growing years of the century which opens so auspiciously for this school, for this city, and for our country. You enter a noble heritage, made so by no efforts of your own, but by the generations of men who have unselfishly sought to do the best they could for suffering mankind. Much has been done, much remains to do; a way has been opened, and to the possibilities in the scientific development of medicine there seems to be no limit. Except in its application, as general practitioners, you will not have much to do with this. Yours is a higher and more sacred duty. Think not to light a light to shine before men that they may see your good works; contrariwise, you belong to the great army of quiet workers, physicians and priests, sisters and nurses, all over the world, the members of which strive not neither do they cry, nor are their voices heard in the streets, but to them is given the ministry of consolation in sorrow and need and sickness.

DEWITT COUNTY MEDICAL SOCIETY.

Regular meetings are held in Clinton on the second Tuesday of January, April, July and October. Membership 25.

Officers.

President. J. M. Wilcox, Clinton
Vice-President. G. M. Robertson, Wapella
Secretary and Treasurer, A. E. Campbell, Clinton
Delegate to State Society. J. H. Tyler
Alternate. Geo. S. Edmonson
Censors—W. E. Chalstran, Lane, 1 year; W. E. McClellan, Beason, 2 years; G. G. Dowdall, Clinton, 3 years.

The Dewitt County Medical Society met in quarterly session in the County Court Room, October 10, 10 a. m., President J. M. Wilcox in the chair.

Dr. Edmonson reported two cases of jaundice in children where succinate of sodium was used with success.

Dr. Campbell reported a case of spasmodic cough in a woman pregnant four months. When the uterus was emptied the cough subsided. Ten months after he was called again, woman was pregnant seven months and apparently completely blind, delay was advised but in a few days the spasmodic cough developed and fearing general convulsions labor was induced, the

cough subsiding but the blindness persisting. In the course of a few weeks a competent oculist was consulted, who was understood to say that nothing could be done for her. After moping around in total darkness for six or eight weeks the sight returned as suddenly as it disappeared. The question, Was this hysterical blindness?

Dr. Wilcox reported the removal of a small tumor from the submaxillary gland, which proved to be a fibroid.

Dr. G. Dowdall read the report of a case of a laborer, a bridge builder who was injured in the pelvic region and lower abdomen by a portion of the structure falling upon him. Blood was found oozing from the urethra—swelling and tenderness in the perineum and an exceedingly painful area over the first lumbar vertebra and motor paralysis of both legs with reflexes absent. Six hours after admission, six ounces of blood was drawn from bladder, later attempts to enter bladder failed and a median incision was made in the perineum, but on account of the displacement of the bladder and laceration of the deeper structures and as the patient was behaving badly it was found impossible to proceed. Consequently a large aspirating needle was inserted into the opening and pushed up into the bladder, the plunger withdrawn and a rubber tube fastened to the retained portion of the aspirator and the other end placed in a bottle under the bed. An incision was also made in the buttocks to drain the iliac fascia in the pelvic cavity, later wound discharged pus and blood, 10 days after the accident delirium and convulsions. Fifty-four days after injury he is able to draw up both legs, has some control over bladder and bowels, slight lumbar pain, and his general condition is slowly improving.

The Secretary read a letter from our State Secretary calling on all component societies to remit the amount due; the Secretary also stated that there were many who had not paid county dues for years. A motion was sustained instructing the Secretary to send monthly statements to all in arrears and report at our January meeting.

The Society was reminded that next year is the fiftieth anniversary of the organization and we still have two charter members, Dr. John Wright, Rosebury, Oregon, and Dr. J. H. Tyler. It was unanimously agreed that both be made honorary members of our Society, and in order that the anniversary may be properly observed the officers and censors were appointed a committee to make the necessary arrangements. A discussion arose over the county pauper practice and the President was authorized to appoint a committee to co-operate with the Board of Supervisors in the hope that the matter may be satisfactorily adjusted.

Society adjourned to the second Tuesday in January, 1906.
A. E. Campbell, Sec'y.

FULTON COUNTY MEDICAL SOCIETY.

Regular meetings are held the first Tuesday of May, July, October and December.
Membership 43.

Officers.

President, T. R. Plummer.....Farmington
First Vice-President, L. R. Chapin.....Canton
Second Vice-President, G. R. Blackstone....
.....Table Grove
Secretary-Treasurer, D. S. Ray.....Cuba
Necrologist, P. H. Stoops.....Ipava
Membership Committee, J. E. Sutton....Canton
Board of Censors, Seymour Nelson.....Bryant
Representative to State Meeting, F. M. Harrison
.....Bryant
Alternate, D. S. Ray

The eighth annual meeting of the Fulton County Medical Society met in the parlors of the Churchill House, in Canton, and was called to order by Vice President S. A. Oren, of Lewis-town, at 1 o'clock p. m.

Minutes of previous meeting read and approved.

Secretary-Treasurer's report read and accepted.

Shallenberger, of the Board of Censors, reported that nothing in the way of complaints had been made to them. There had been some agitation along the line of improper advertising, resulting in quite an improvement in this direction. He called attention to the "contract business" that was being followed by some of the members of this Society, and advised greater effort to eradicate this evil.

Application from P. B. Goodwin, of Summum, recommended by Drs. Oren and Stoops, also application from W. C. Mitchell, of Farmington, recommended by Reagan and Robb, were referred to the Committee on Membership.

Committee favorably reported on the application of Dr. J. P. Nelson, of Fiatt, on the ballot he was elected to membership.

Officers were elected as above.

Shallenberger and Robb moved that Harrison attend the State Meeting. Carried.

A letter from a committee of Chicago physicians, inviting this Society to send a representative to a banquet to be given Dr. Senn November 11, was read and on motion of Shallenberger the Secretary was instructed to appoint a representative.

Shallenberger and Stoops moved the adoption of the resolution presented at the previous meeting, striking the word "regular" from Article 5 Section 1 of the Constitution.

Harrison and Rogers moved to table the motion until our next meeting.

Carried by President casting a deciding vote. Dr. Rogers presented a paper on **Empyema** that was freely discussed by all present.

Dr. Lemaster, of Bushnell, gave reports of several interesting cases, with microscopical exhibition of specimens.

Chapin and Shallenberger moved that the Secretary settle the dinner bill for today.

Stoops and Robb moved a vote of thanks to Dr. Lemaster. Carried.

The following members were present: Seymour Nelson and F. M. Harrison, of Bryant; S. A. Oren, of Lewistown; P. H. Stoops, of Ipava; F. C. Robb, of Farmington; H. H. Rogers and D. S. Ray, of Cuba; J. E. Sutton, T. C. Hayes, E. W. Reagan, P. S. Scholes, L. R. Chapin, W. E. Shallenberger and J. E. Coleman, of Canton.

The visitors were: Drs. Lemasters, of Bushnell, and W. C. Mitchell, of Farmington.

The following bills were allowed and ordered paid: Cuba Journal, printing, \$3.00; P. S. Scholes, expense to State Meeting, \$9.80; D. S. Ray, postage, \$5.15; Churchill House, six dinners, \$3.00; making a total of \$20.95.

County dues were collected from the following: R. Ewan, \$2.00; P. H. Stoops, \$1.00; J. M. Nellis, \$7.00; L. R. Chapin, \$1.00; J. E. Sutton, \$1.00; F. M. Harrison, \$1.00; W. E. Shallenberger, \$1.00; Seymour Nelson, \$2.00; F. C. Robb, \$1.00; S. A. Oren, \$2.00; S. L. Oren, \$2.00; P. S. Scholes, \$1.00; making a total of \$22.00 collected for county dues.

The following paid each \$1.50 State dues: P. H. Stoops, J. E. Sutton, W. E. Shallenberger, Seymour Nelson, F. C. Robb, S. A. Oren, D. S. Ray, P. S. Scholes.

D. S. Ray, Secretary.

JERSEY COUNTY MEDICAL SOCIETY.

Officers.

President, J. E. Williams.....Jerseyville
Secretary-Treasurer, A. K. VanHorne, Jerseyville

At the October meeting of the Jersey County Medical Society, members present: Dr. J. S. Williams in the chair, Drs. Barnett, Waggoner, Giberson, J. W. Enos, Bohanan and Van Horne.

Dr. A. A. Barnett read a paper on **Typhoid Fever**, which was discussed at length by all the doctors present.

A communication was received from Drs. Evans, Billings, Murphy, Baum, Dougherty and Andrews, of Chicago, asking that a delegate be appointed to attend the banquet tendered by the medical profession to Nicholas Senn, M. D., on November 11, 1905.

President Williams appointed Drs. A. K. Van Horne and Russel Bohanan.

Drs. O. O. Giberson and L. T. Waggoner paid dues, \$1.50 each to the State Medical Society.

On motion Society adjourned to first Wednesday in November.

A. K. Van Horne, Secretary.

KENDALL COUNTY MEDICAL SOCIETY.

Meetings are held the second Tuesday of May and October at Yorkville.

Officers.

President, T. B. Drew.....Oswego
Vice-President, W. E. Kitler.....Oswego
Secretary-Treasurer, R. A. McClelland.....
.....Yorkville
Delegate to State Meeting, R. A. McClelland
.....Yorkville
Alternate, W. E. Kitler.....Oswego

Board of Censors....Drs. Frazier, Lane, Dryden
Program Committee..Livermore, Lord, Bennett
The annual meeting of the Kendall County

Medical Society was held in the parlor of the Hotel Nading, Tuesday evening, October 3. The following members were present: F. R. Frazier, President; Drs. Cook, Drew, Dryden & McClelland; also our worthy Councilor, W. O. Ensign, of Rutland, who came here to assist the Secretary in securing members of the profession who had failed to join the Society, all of which was accomplished. The minutes of the last meeting were read and approved, and the application of Drs. Lord and Bennett, of Plano, also Dr. R. N. Lane, of Lisbon, Ill., were received and referred to Board of Censors. On recommendation to membership the Society voted to accept them. It was hoped this meeting would be favored with a good program, but the committee of arrangements utterly failed to do its duty, hence there were no papers, or other speakers procured.

The report of the Secretary-Treasurer was then presented. The election of officers was next taken up, with the results as above. The time of meeting was changed to afternoon in place of evening.

Dr. W. M. Hanna, ex-President of this Society, having removed from this county to Aurora, Ill., has decided to retire from practice, and withdraws from the Society.

There have united with the Society this year six new members; withdrawn, 2; physicians in the county not members, 2; number of members who have paid the State dues, 13; total membership, 15.

Dr. W. O. Ensign was invited to address the meeting, which he did in his very pleasing way. The object of county organization was fully explained, and intention of the State Society, all of which was fully appreciated, and a vote of thanks extended the doctor, with a wish that he visit our Society often.

LOGAN COUNTY MEDICAL SOCIETY.

Regular meetings are held bi-monthly. Membership 14.

Officers.

President, Markell Lee.....Atlanta
First Vice-President, C. Rembe.....Lincoln
Second Vice-President, J. H. Butler..Hartsburg
Secretary, H. S. Oyler.....Lincoln
Treasurer, C. C. Montgomery.....Lincoln

The Logan County Medical Society held its regular bi-monthly meeting in the City Council Chambers of City Hall, Lincoln, October 19, 1905, at 2:30 p. m.

The following applications for membership were received and favorably acted upon and received into full membership:

B. F. Stults, M. D., New Holland.
F. M. Hagans, M. D., Lincoln.
W. A. Koch, M. D., Middletown.
E. R. VanMeter, M. D., Lincoln.
L. M. Perry, M. D., Broadwell.

The resolution offered at last meeting condemning all advertising professional criticisms of brother practitioners, all forms of contract practice with lodge, insurance and society organizations which constitutes jus cause for re-

provement, suspension, or expulsion, was read and adopted by the unanimous vote of the Society.

A resolution was entered for final action at next meeting to change the entrance fee from \$1.00 to \$1.50, and the annual dues from 50 cents to \$1.00.

Dr. Carl Rembe, of Lincoln, read a very interesting and instructive paper on **Fractures of the Femur**. The paper was based upon the records of some unwritten cases occurring in his practice, demonstrating the application of the ambulatory and Hodgens splints. The paper was well received, and after the discussion the Society gave Dr. Rembe a vote of thanks for his effort.

The Society then adjourned till December 21, 1905, when there will be a joint meeting with the Logan County Dental Society.

MACOUPIN COUNTY MEDICAL SOCIETY.

Regular meetings are held semi-annually the third Tuesday of April and October. Membership 40.

Officers.

President S. A. Huffman, Chesterfield
Vice President E. A. Bleuler, Carlinville
Secretary-Treas....J. Palmer Matthews, Carlinville

The Macoupin County Medical Society met in the parlors of the Mercantile Club of Virden at 10:30 o'clock a. m., with Dr. E. A. Bleuler in the chair.

The following members were present: Drs. E. A. Bleuler, S. H. Carr, J. M. Earcus, J. S. Collins and J. Palmer Matthews from Carlinville; Drs. Farmer, Shriner, Allen, Lockwood and Morgan from Virden; Dr. D. A. Morgan, Nilwood; Drs. Hill, Vanwormer, Mitchell, Conway and Simmons from Girard; Drs. English, King and Hobson from Gillespie, Dr. Pattison from Benld, Dr. Bell, Thayer; A. T. Bartlett, Jacksonville; Willard Bartlett, St. Louis; R. D. Berry and G. N. Kreider, Springfield; Dr. Ben Hudson, Palmyra—twenty-six in all.

The minutes of the previous meeting were read and approved.

The Treasurer reported \$1.75 in the treasury. The following named gentlemen were proposed for membership, and after due deliberation of the committee the Treasurer cast a ballot for them and they were declared elected: Dr. E. B. Hobson, Rush, 1867; J. N. English, Mo. Med., 1893; C. D. King, St. Louis U., 1900; H. A. Pattison, Chicago Homeop., 1904; M. H. Farmer, U. of Nebr., 1885; T. W. Morgan, Rush, 1900; D. A. Morgan, Barnes', 1905.

Signed, S. H. Carr, E. K. Lockwood and C. A. Allen, Censors.

The Committee on Program reported Gillespie as the next place of meeting.

Dr. King of Gillespie volunteered a paper.

The program is to be filled later by the Secretary.

Dr. Willard Bartlett delivered an excellent paper on "What I Have Learned from Surgery of the Stomach." Dr. Bartlett's paper was on motion received and placed on the minutes.

Dr. M. H. Farmer reported a case of babes dorsalis. These papers were discussed by all.

Dr. E. R. Motley reported a boy 4 years old who had frequent fractures of the lower extremities. Osteo-malacia is a trophic neurosis in this case, involving the crural nerve and causing atrophy of the muscles and brittleness of the bones enervated by it from the spinal cord.

Dr. Lockwood reported a case of lues with a gumma on the elbow, which was treated without effect by iodide of potassium. The X-ray was causing improvement in the case.

The following amendment to the by-laws was made unanimously:

Section XIV to the by-laws.—It shall be the duty of the Secretary-Treasurer to collect the annual dues assessed by the State Society at its May meeting. The dues shall be paid at our April meeting. When the fees cannot be collected the member shall be dropped.

Dr. Kreider asked the Society to consider the adoption of a plan of insurance against malpractice to be run on an assessment plan of \$1 a year per member.

A vote of thanks was extended to Vice President R. D. Berry and Dr. Kreider of Sangamon County Society and Dr. Willard Bartlett of the St. Louis County Society for their presence and good will on this occasion.

Drs. Berry and Kreider extended an invitation to the annual banquet of their Society in November at Springfield, which was received with pleasure by the Society.

The Society then adjourned to meet at Gillespie on the third Tuesday in April, 1906.

J. Palmer Matthews.

MORGAN COUNTY MEDICAL SOCIETY.

Regular meetings are held in Jacksonville the second Thursday of each month.

Membership 12

Officers.

President.....J. W. Hairgrove, Jacksonville
Vice President..Josephine Milligan, Jacksonville
Secretary-Treasurer....D. W. Reid, Jacksonville

The regular monthly meeting of the Morgan County Medical Society was held at the Library, October 12. By invitation the teachers of the public schools were in attendance and took part in the program. The program consisted of subjects of mutual interest to doctors and teachers. There were present seventeen members and forty-five public school teachers.

Prof. W. A. Furr, Superintendent of Jacksonville public schools, gave an address on **The Relation Between Physical Defects and Classroom Work in School Children**. He said that the statistics taken in the Chicago schools from the examination of large numbers of children showed that a large per cent. of the children were defective in hearing. In the age from six to nine the percentage of deafness increases; from the age of nine to fourteen the percentage of deafness decreases, and from that on to puberty it remains about the same. The speaker drew some interesting lessons from these statistics and showed the cause of this increase in the first years of school life and dwelt upon the

every physician in the county with a copy of the constitution and by-laws of this Society.

The following visitors were elected to membership: Amos Sawyer, W. A. Hodges, L. F. Brown, H. A. Seymour, E. A. Beurell and H. F. Bennett.

Dr. Amos Sawyer read a paper on **Tuberculosis Pulmonalis**, which was discussed by Drs Kelly, Allen, Cook and Burwell.

Dr. Lockhart reported a case of convulsion and coma in an elderly woman which resulted in recovery, and the case was discussed by Drs. Whitten and Kelly.

The officers as above were elected for the ensuing year.

Adjourned to meet in Litchfield in April.

ROCK ISLAND COUNTY MEDICAL SOCIETY

Regular meetings are held bimonthly at Rock Island on the second Tuesday. Membership 56.

Officers.

President.....G. L. Eyster, Rock Island
Vice-President.....F. H. Gardner, Moline
Secretary.....R. Dart, Rock Island
Treasurer.....J. E. Asay, Rock Island
Official Reporter.....F. H. First, Rock Island

The regular meeting was held at Manufacturers' Hotel, Moline, Tuesday evening, October 10.

There were nineteen members present. Supper was served at 6:30, after which a very interesting symposium on **Rheumatism** was held.

Papers by Drs. A. M. Beal, of Moline, and J. P. Comegys, of Rock Island.

The papers were discussed by all members.

Following was a paper by Dr. E. Sargent, of Moline, on **Treatment of Head Injury**, which was generally discussed.

The next meeting will be held in Rock Island on Tuesday, December 11.

VERMILION COUNTY MEDICAL SOCIETY.

Regular meetings are held at the Council Chamber, Danville, Illinois, the second Monday in each month at 8 P. M.

Officers.

President.....F. N. Cloyd
Vice President.....S. L. Landauer
Secretary-Treasurer.....C. E. Wilkinson
Board of Censors—H. F. Becker, Joseph Fairhall and Benj. Gleeson.
Public Health and Legislation—Joseph Fairhall, E. E. Clark, T. E. Walton.
Program—F. N. Cloyd, E. B. Coolley, C. P. Hoffman.

The Vermilion County Medical Society was called to order in the City Hall at 8:20 p. m. The Secretary being absent on account of sickness, the minutes of the September meeting were not read. E. E. Clark acted as Secretary.

The committee on the medical library matter

was not prepared with definite information and was given more time.

The Board of Censors reported favorably on the name of T. B. Redmon, who was elected to membership.

On motion W. H. Boone, of Sidell, was reinstated to membership.

Paper on **Summer Diarrhoea of Children** by E. B. Coolley, followed by an interesting and general discussion.

The paper on **Treatment of Typhoid Fever** not being available, a discussion on the subject was opened by S. M. Black.

On motion it was decided to have at the December meeting a stag social session and invite all regular members of the profession in Vermilion County.

Adjourned.

Western Illinois District Medical Society for the Sixth Councilor District.

The annual meeting was held at Alton, October 28.

The officers of the Society are: H. W. Chapman, Whitehall, President; L. J. Harvey, Griggsville, First Vice President; David W. Reid, Jacksonville, Second Vice President; A. L. Adams, Jacksonville, Secretary and Treasurer. The Board of Censors are: T. J. Pitner of Jacksonville, L. H. A. Nickerson of Quincy, Waldo Fisher of Alton. The following program was rendered: "The Consideration of Serious Surgical Emergencies," J. A. Day, Jacksonville; "Cholelithiasis," H. R. Lemen, Alton; "Pelvic Abscess," Henry Hart, Quincy; "Chronic Nephritis of the Aged," J. Palmer Matthews, Carlinville; "Muco-colitis, Report of Case," W. T. Knox, Manchester; "Glaucoma," T. L. Foulds, Alton; "Peritonitis," J. W. Hairgrove, Jacksonville.

New Incorporations.

Northwestern Drug and Remedy Company, Chicago; capital, \$2,500; manufacturing drugs and chemicals; incorporators, Chauncey W. Martyn, Will M. Taylor, Marshall Solberg.

Vegetable Specific Company, Chicago; capital, \$2,500; manufacturing patent medicines; incorporators, Charles H. Tucker, H. D. McIlrath, William A. Jennings.

Ravenswood Hospital, Chicago: Capital, \$50,000; maintaining a hospital and training school for nurses; incorporators—George W. Green, George N. Bussey, Ernest A. Fetherstone.

In the treatment of fractures of the forearm no consideration is more important than the avoidance of contractures of the fingers, by the intelligent use of splints and by means of early, active and passive movements.

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The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

Epilepsy.

Two remedies have been recently introduced for the treatment of epilepsy. One of these is Verbenin, which has been highly recommended by a number of clinicians; especially in cases of gastrointestinal irritation from worms or other causes. The other is Solanine, the alkaloid of the horse-nettle. This plant has attracted a great deal of attention, as a remedy for the nervous irritability which renders the epileptic more liable than ordinary persons to suffer from these explosions. The crude plant preparations are too variable for anything like definite results, but their use has shown the remedy to be of undoubted value. The Abbott Alkaloidal Co. presents the pure alkaloid in granule form; and Verbenin as a purified extract, the best preparation as yet attainable.

little or no satisfactory results, I commenced the use of Glyco-Thymoline and was relieved in eight hours of the neuralgic pain, and I am glad to say I am as free from nasal catarrh as an infant. The above disease is the only disease I have had a chance to use Glyco-Thymoline on, and I used the sample sent me in curing myself. In conclusion will heartily recommend Glyco-Thymoline to all who have nasal catarrh and will wager one hundred dollars that it will cure the case unless the disease is of syphilitic origin. I think Glyco-Thymoline should be introduced in every physician's practice in the United States.

"I for one shall recommend and use it in every case that comes under my treatment for nasal catarrh."

Persistent Headache Due to Nasal Catarrh.

Nasal catarrh, both acute and chronic, frequently serves as the cause of headache. The pain is generally one of persistent type and classed as congestive. Examination in these cases may show supuration of accessory sinuses with marked nasal obstruction due to small spurs, deviated septum and general hypertrophy. As a rule these obstructions are of little import if the engorged membrane can be readily depleted and the local circulatory system restored. This can readily be accomplished by instructing the patient in the use of Glyco-Thymoline in a 25 per cent solution (warm) by means of the K. & O. Nasal Douche. The solution should be applied at least twice daily until the nasal membrane is found to be perfectly normal. This measure will give prompt relief from the congestive pain and maintain the nasal membrane in a healthy condition.

The following case occurring in the practice of J. K. Cantrell, M. D., of Alton, Mo., can be cited as typical:

"I suffered for twenty years from nasal catarrh and at times experienced the most agonizing neuralgic pain of a superior orbital character; like all other physicians, thought but little of using any remedy than my own until I received the sample bottle of Glyco-Thymoline sent me by you. It set in my office for months until one of those neuralgic attacks came on, and after using my own remedy with

Treatment of Cerebrospinal Meningitis.

Chief Staff Surgeon Sehrwald reports in the Deutsche Med. Wochenschrift, No. 35, 1905, a sporadic, typhoid and quite severe case in which all usual methods were employed, with only transient effect at the most. He then proposed daily inunctions of two drams unguentum Crede into the trunk, after cleansing with soap and alcohol. The effect was striking. With the very first inunction the clinical picture improved, and after four of them the patient was bright and cheerful and almost wholly free from subjective difficulties. As the treatment had not been altered in any other respect, there can be no doubt that the favorable turn in the disease is due to the silver salve. The author warmly recommends this simple and safe method to all practitioners.

Prof. Bjorkmann recommends the following treatment in cerebro-spinal meningitis. Inunctions of unguentum Crede are given at first twice and then once daily. At the same time the hair of the scalp is closely clipped, and moist borated gauze drenched in a 1½ per cent formaldehyde solution, acentanilid and 1/10 per cent kresamine is continually kept over the whole head from the root of the nose backward down to the neck and on the sides, leaving the ears free. The pack is covered with a cap of oil-cloth and renewed as soon as it becomes dry.—Merck's Archives, January, 1905.

Dr. Mitour contributes (Bulletin gen. de Therap. med., July 15, 1905) a paper to the silver therapy of cerebrospinal meningitis. For

a woman with severe meningitis symptoms he ordered on the third day of the disease four inunctions of unguentum Crede. On the following day the convulsions ceased and the patient regained consciousness. Under two or three inunctions daily the temperature returned to normal on the ninth day of the sickness, and though the pulse was still a little rapid, the general condition and appetite were excellent. Complete cure followed. The author also reports a case of febrile eclampsia cured by the same therapy.

The Physician's Pocket Account Book, by Dr. J. J. Taylor, editor of the Medical Council, No. 4105, Walnut Street, Philadelphia, is a neat, compact, easily kept and strictly legal book, carried in the pocket and showing each person's account at a glance. Bound in leather only \$1.00.

D. O. Haynes & Co., publishers of the Pharmaceutical Era, 90 William Street, New York, have just issued *The Era Key* to the U. S. P., based upon the last edition of that excellent work. It is handy, reliable and should be in the hands of every practitioner of medicine.

The Anti-Narcotic Santiarium is represented in our columns by an advertisement for the first time this month. This institution, we believe, is conducted on the ethical lines and can be recommended to our readers as a suitable place to send patients for treatment.

D. Appleton & Co. will publish early in November a new book on the **Differential Diagnosis and Treatment of Disease**. The author is Augustus Caille Fellow of the New York Academy of Medicine, member and ex-President of the American Pediatric Society, Professor of Diseases of Children, New York Post-Graduate Medical School and Hospital, Visiting Physician to the New York Post-Graduate and German Hospitals, Consulting Physician to Isabella Home and Hospital, etc. The profession

will look forward to the publication of this work with great interest, as it will undoubtedly be a valuable contribution to medical literature.

Superstition in Medicine.

By Prof. Dr. Hugo Magnus. Authorized Translation from the German, edited by Dr. Julius L. Salinger, late Assistant Professor of Clinical Medicine, Jefferson Medical College; Physician to the Philadelphia General Hospital, etc. New York and London: Funk & Wagnalls Co., 1905. Pp. 205. 12mo.

This volume contains a history of the erroneous ideas and fanciful beliefs that have prevailed in the world with regard to illness and its cure, from the days of ancient Rome to the present time.

The statements set forth should not be construed as reflecting the developments of theology or medicine at the time, but as the belief of the people existing in these periods. It is not a criticism of a system, but a criticism of man.

Manual of the Diseases of the Eye.

By Charles H. May, M. D., Ophthalmic Surgeon to the City Hospitals, Randall's Island, New York, etc. Fourth edition, revised, with 860 original illustrations, including 21 plates and 60 colored figures. Four hundred pages. Price, \$2.00. William Wood & Co., 51 Fifth Avenue, New York.

This manual has gone through four editions in five years and has been translated into German and Italian as well as reprinted in English. It seems therefore to have filled the traditional long-felt want, and can be recommended for students and those practitioners that wished to be placed in touch with things in ophthalmic practice. It is thorough, concise and cheap.

The Illinois Medical Journal.

The Official Organ of The Illinois State Medical Society.

Vol. VIII. No. 6. }
25c per copy }

Springfield, Ill., December, 1905.

{ SUBSCRIPTION
\$2.00 A YEAR.

SHOULD THE PHYSICIAN SEND HIS TUBERCULAR PATIENTS TO COL- ORADO?

BY W. H. WATTERSON, M. D., FOX LAKE, WIS.

I am loth to write on this subject because of the health I have regained and retained in Colorado during the past fifteen months, and because I must say some things which may seem adverse to Colorado as a place to send tubercular patients. But what I want to speak of is rather the discretion of sending patients without proper discrimination.

Flick and some others say there is nothing to climate. Climate has been referred to as a "will o' wisp," etc. Then by the other extreme it is spoken of as everything in the treatment. There is a happy medium to these extremes, and to know this extreme is to know climatology and its circumstances.

To visit Colorado on a beautiful autumn day when all is at its best and to come away and say we have studied its climate, is retrogressive; in fact, similar to the physician who places himself before the public as an M. D. after having taken a four weeks' medical course. One must remain a year, must be alert to conditions found, must study the benefits and detriments in relation to the tuberculoar patient and far better can he study these things if he himself has been a patient and taken the treatment. It having been my lot to fill the foregoing condition and in addition to have been connected, as physician, with one of the sanatoria. I have been prevailed upon to sum up my impressions of the conditions as they exist in Colorado. Tuberculosis is a condition resulting from getting away from nature and its only cure is in getting back to nature to the same extreme that we have gotten

away from it. If one has been overworked, underfed and closely housed till his resistance has been lowered to the point of allowing the tubercle bacillus to invade, then his only hope is in rest, overfeeding and a life in the open air, till his resistance has been increased to and beyond the point of destroying the invader.

Now as to whether he takes this overfeeding in Colorado or Illinois, is of little consequence—with altitude stimulation in favor of Colorado and expense in favor of Illinois. Rest *can* be taken in a quiet camp in Illinois as well as in Colorado, except the nervous who rest better in the lower altitude and the overenergetic who will not rest so near his home. Then by the laws of ratio we have Colorado and Illinois of equal value in the questions of food and rest, two of the essentials to cure tuberculosis. Now as to open air, I do not wish to minimize the benefits of open air treatment, but that Colorado is the only place one can get it, is absurd. Let us take facts and look at them. Colorado does not have a mild winter. On February 11, 1905, it was 24 degrees below zero at Denver; it was more than 10 degrees below zero on several occasions during the past winter. I was recently told by Dr. Holden, Medical Director at Agnes Memorial Sanitarium, Denver, that the advantages of Davos, Switzerland, were the dry, cold climate of its winters and that the very best results were obtained at that time. Colorado is the opposite—freezing and thawing is the program for 95 per cent of the winter nights and days, giving a very uneven temperature. Colorado may have more days, or rather hours, of sunshine than Illinois, but judging from the past year I doubt it. That there is purer air in higher altitude is conceded; but that there is as pure air in a city like Denver as there is in a quiet country place away from factories

in Illinois, I am not ready to concede. A very large per centage of patients sent to Colorado never get out of Denver to live. The fact that there is increasing moisture and rains with increase of cultivation is as true in Colorado as it has been in any other State.

In an article of the October number of THE ILLINOIS MEDICAL JOURNAL there is an attempt made at trying to prove unwarrantable fear as to the effect of altitude. I must speak a word of caution here lest many a patient find out too late, that he is in too high an altitude. In handling over 100 patients during my connection with the Y. M. C. A. Health Farm near Denver, I saw at least a dozen patients who were *certainly* in too high an altitude. My own case was an example. On arriving in Denver I was examined by the medical examiner who found but one apex affected; by the end of three days both my lungs were badly congested, and this notwithstanding that I was quiet and in bed nearly all the time. There may not be much acceleration in the healthy by going higher, but there certainly is an increase in the disease, and especially where there is tachycardia as a symptom of the disease. Again our best men admit this acceleration of pulse and its dangers. I asked Dr. White, Medical Director of Nordrach Ranch, Colorado Springs, if he did not think altitude as detrimental as healthful, to which he replied, "Yes, unless the patient is under careful medical supervision." Dr. Holden admitted the detriment in advanced cases, while Dr. Evans of Colorado Springs Sanatorium, admitted altitude to be detrimental in nervous cases.

Then there is a long list of conditions which are not agreed upon by those treating the disease for many years in Colorado as to its relation to high altitude. For instance, few of the sanatoria will take tubercular bowel cases, laryngeal cases, kidney or heart complications, the very young, the very old, nervous cases, acute febrile cases, etc., till there are few if any who do not come under that class in which there is

contraindication to high altitude by some good men. Another point which I must speak of and that is, that *no* patient should be sent into Colorado without being sure that he can get into a well regulated sanatorium. Of these I think Dr. Wheaton has given you a good list in the October number of this Journal, but this is but a very limited capacity less than six hundred in all to house the thousands being sent indiscriminately to Colorado.

To sum up, let me plead for the patient we as physicians are sending into what is unknown to most of us—they are getting results in Colorado but they are also getting results in your own State.

Allow me to put these limitations on sending patients to Colorado: First, that they have at least \$500 bank account; second, that they know where they will be cared for before going; third, that there are none of the complications contraindicating a high altitude.

CRUSHING INJURY OF ARM WITHOUT FRACTURE OF HUMERUS—PERMANENT OBLITERATION OF BRACHIAL ARTERY—MUSCULOSPIRAL PARALYSIS AND EXTENSION APPARATUS FOR SAME.*

BY GEORGE TARNOWSKY, M. D., CHICAGO.

Case history: Mr. K., age 39, elevated railroad conductor. While stooping down between the platforms of his car to connect the airbrake, which had not been attended to properly, his left arm was caught between the "deadboards" and squeezed. The accident happened just as the cars were rounding a sharp curve, and before the train had come to a full stop, with the result that the soft parts were not suddenly crushed but gradually ground together by the convex deadboards. When examined half hour later, numerous ecchymoses were found on the arm but no open wound. The biceps and coraco-brachialis muscles were crushed

*Presented at a meeting of the North Shore Medical Society, 1905.

and felt "doughy" on palpation. Pulsation of the brachial artery ceased at a point 4 cm. below the axilla. The entire limb, as high up as the junction of the lower and middle third of the arm was pale, cold, numb and pulseless. Musculo-spiral paralysis was complete. The little and ring fingers could be readily flexed, but there was only very slight motion in the thumb and two outer fingers, showing that the median nerve had also been injured.

There had been slight compression of the ulnar nerve, as evidenced by tingling and numbness in the little and ring fingers, but these symptoms only lasted a week. There was no fracture of the humerus. Severe pain was absent and there was very little shock, as patient was able to attend to his train until relieved, and walked to my office unaided.

Treatment: Patient admitted to the Chicago Union Hospital on the same day (April 23, 1904). Hot moist boric-acid dressings were applied to the entire arm and the limb elevated on pillows covered with oilcloth. Warmth was maintained by pouring on fresh hot solution every two hours, night and day, and by means of hot water bottles and blankets. These details are mentioned because their faithful execution in all probability saved the arm from the amputating knife. The forearm and hand remained pale for forty-eight hours and it was only at the beginning of the third day that capillary circulation was restored. Moist dressings were kept up for one week and heat for two weeks longer. Faradization of the biceps, triceps and supinator-extensor group of muscles was instituted three weeks after the accident and kept up bi-weekly for a period of ten weeks. Repeated examinations were negative as regards pulsation of the brachial artery, but within two months from the date of the accident, the superior-profundus artery was pulsating vigorously in the musculo-spiral groove. Soon after, a weak radial pulse was obtained for the first time since the accident. For several months the patient had to wear a woolen glove on his left hand, circulation being inadequate. Under combined

faradization, massage and arm exercises, steady though slow progress was made.

The traumatic contraction of the biceps which only allowed 50 per cent extension of the forearm, was completely overcome; the supinator-extensor group of muscles regained their normal tonicity, and there was both motor and sensory improvement in the domain of the musculo-spiral and median nerves. My patient was very anxious to return to his work, but found it impossible to open or close the train gates with his left wrist. While it was reasonably certain that the musculo-spiral nerve would in time regain its complete function, it seemed to me that an apparatus could be fashioned which would enable the patient to do his particular work while continuing the bi-weekly faradization at the office. The various forms of apparatus devised by orthopedic surgeons were found to be either too cumbersome or too weak. Dr. G. S. Davis (1) devised an excellent but rather unwieldy pivot-splint which he describes as follows: "Two side irons pass, one on each side, from well up the forearm to the first interphalangeal joint, where they are joined by a rod running from side to side. The apparatus is jointed opposite the wrist and a spring on each side at this point serves to keep the apparatus in extension. The arm is laid in the splint, the cross bar at the end extending across the distal ends to the first phalanges on their palmar surface. Two straps fasten the apparatus to the forearm, and a piece of webbing fastened by buckles passes over the dorsum of the hand opposite the metacarpophalangeal articulation." Heuser's apparatus (2) consists essentially of a leather lacer on the forearm, wrist and hand, with separate rings around the thumb and fingers at the first phalanx. Separate elastic straps connect the gauntlet to each finger.

Van-Bibber (3) takes two strips of adhesive plaster and applies them on the posterior surface of the forearm in V shape, with the apex toward the elbow. An elastic band is attached to the end of one strip and made to pass into the palm of the hand, around the middle and ring fingers and back

to the other plaster to which it is attached. Both Heuser's and Van-Bibber's appliances allow too much lateral motion of the wrist joint. By referring to the accompanying photograph, the essential parts of my apparatus will be made clearer. On the ulnar side of the forearm and wrist is an aluminum-steel strip 18 cm. long, the proximal 13 cm. of which are rivetted to a leather lacer which encircles the forearm. At the distal extrem-

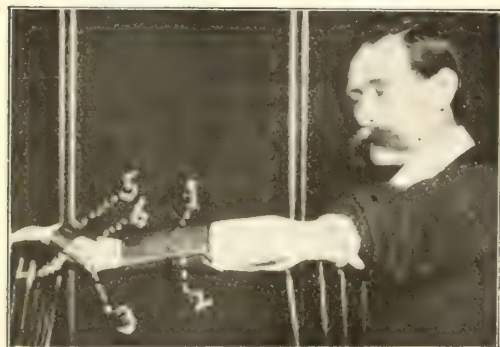


FIG. II.

1. Leather lacer.
- 2 & 4. Aluminum Steel strips.
3. Pivot joint and steel spring.
5. Metal band partially encircling hand.
6. Wrist strap and buckle.

ity of the lacer, the aluminum-steel strip is curved slightly outward in order to avoid pressure against the styloid process of the ulna. Its distal end is opposite the wrist joint. A second strip 8 cm. long, made of the same alloy, begins at the wrist and extends along the ulnar side of the hand to the palm; rivetted at right angles to its distal extremity is a metal band which encircles the ulnar 2-3 of the palmar surface and the ulnar 1-2 of the dorsal surface of the hand. This band is covered with leather and the circle completed by a strap and buckle which is secured on the dorsum of the hand. A second strap is buckled around the wrist and prevents undue lateral motion. The two longitudinal strips are connected at the wrist by a joint, inside of which is a circular steel spring of sufficient strength to maintain a weight of one kilogram in the horizontal position when attached to the distal end of the apparatus. All three strips have a width of 1 cm. and a thickness of 1 mm.

They are extremely light, quite elastic and yet are sufficiently strong for their purpose.

The spring and pivot joint are of essential value. Elastic straps were first used, but we had to discard them as it was found they allowed so much lateral motion of the wrist that the patient was unable to grasp any object with certainty; i. e., his wrist was too "wabbly."

The entire apparatus weighs five ounces and was made by Truax, Greene & Co., of Chicago, at a cost of ten dollars. The following distinct advantages are claimed for it.

1. It does not restrict finger movement; a pen or pencil can be used without trouble.
2. Undue lateral motion is restricted.
3. Very light weight.
4. All wrist movements are possible.
5. Ready adjustment and removal.

The musculo-spiral nerve being probably the most frequently injured nerve in the body and "wrist-drop" practically crippling the unfortunate sufferers thereof, the apparatus herein described will be found of practical use in a great number of cases. With it, my patient was at once able to perform his duties with ease and soon became so accustomed to it that he could execute the most delicate movements of the hand while wearing it. Four and a half months after the accident, wrist extension began to be restored, but patient continued to wear the apparatus for about three months longer. At present writing, recovery is complete. There are no motor or sensory disturbances, and barring a slight degree of atrophy in the biceps, his two upper extremities are symmetrical.

The radial pulse on the left side is about 1-3 strength compared with the right, but patient no longer suffers from arterial deficiency, nutrition and temperature being the same on both sides.

Remembering the intimate association of the musculo-spiral nerve and superior-profundus artery as they wind around the humerus in the musculo-spiral groove, it is rather difficult to explain why the nerve

should have received the brunt of the crushing. Daily examinations of various palpable arteries were made; it can be positively asserted that brachial artery circulation was never restored and that four or five weeks passed before a faint pulsation could be appreciated in the musculo-spiral groove. As was stated in the first part of the paper, pulsations in the brachial artery ceased at a point 4 cm. below the anterior axillary border; it became therefore evident that the superior-profunda was the only vessel which could, either directly or through its anastomoses, carry on the interrupted circulation. The following hypotheses are tentatively suggested:

(1) Was the injury to the superior-profunda so slight in nature that the thrombus softened and the lumen of the vessel was restored?

(2) Is circulation at present carried on by the vasa-vasorum? In the case described by South (4) "sets of vessels were found descending on either side (of the brachial artery) from above the obliteration to be received into others which ascend in a similar manner from below it."

(3) Was there a high division of the brachial artery and did one branch escape serious injury? Quain (5) states that in 20 per cent out of 481 cases examined there were two brachial arteries instead of one in some part or in the whole of the arm. This abnormal bifurcation is most frequent in the upper part of the arm.

(4) Were there "vasa aberrantia" (6) connecting the brachial with one of the arteries of the forearm or a branch from them? In the absence of a post-mortem dissection of the limb no positive opinion can be given.

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- (3) Sayre. *Orthopedic Surgery*, p. 532.
- (4) Chelius. *Surgery*, vol. 2, p. 254.
- (5) Quain's *Anatomy*.
- (6) Gray's *Anatomy*, p. 597.

1916 Evanston Avenue, Chicago.

A CASE OF STRICTURE OF THE ESOPHAGUS, FOLLOWING TYPHOID FEVER.*

BY DR. S. C. PLUMMER, CHICAGO.

The patient, E. S., was a male student, 17 years of age, whose father was living and well. Mother died of pulmonary tuberculosis. Patient was temperate, and had no previous illnesses except the diseases of childhood.

On September 21, 1903, he took to his bed with typhoid fever. On October 15th, while apparently convalescent, he suffered a relapse, and was severely ill for more than three weeks longer. Liquid diet was continued till about November 12th. On this date he partook of semi-solid diet for the first time, and noticed difficulty in swallowing, with frequent choking. This condition gradually grew worse, and about December 10th the attending physician began passing esophageal sounds each day until December 19th, when patient was removed to another hospital. From December 19, 1903, to February 25, 1904, he received no treatment for the stricture, but from that date on a whalebone sound with steel olive tips was used.

On April 12th he became unable to swallow anything, even liquids, and was nourished by rectal alimentation. On April 18th he entered Wesley Hospital, Chicago, and on April 21st was anesthetized with ether. An unsuccessful attempt was made to pass bougies of various sizes, after which gastrostomy was performed, using a vertical incision, with separation of the fibers of the rectus muscle, as advised by von Hacker. As it was impossible to enter the esophagus through the cardiac orifice of the stomach, the edges of the stomach wound were stitched to the edges of the parietal peritoneum and a drainage tube inserted. It was not the aim to make a permanent fistula lined with mucous membrane, but it was hoped that the stricture of the esophagus would relax, and the gastric fistula, after serving as a temporary route for nourishing the patient, might be allowed to close.

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

On April 27th, six days after the operation, the patient could again swallow liquids. On the following day an attempt was made to pass a small bougie, but unsuccessfully. Several similarly unsuccessful attempts were made during the next few days. On May 4th the stricture again closed, so that liquids could not be swallowed, and on July 21st I gave up all hope of ever dilating the stricture, and the patient left the hospital. At this time he was strong and well nourished.

On August 26th after nearly four months of absolute closure he could again swallow liquids, and he returned to the hospital September 4th. Attempt to pass bougies were unsuccessful as before, so efforts were directed to getting something through the stricture by swallowing. Repeated efforts on the part of the patient failed, but on September 29th he informed me that he thought a very fine silk thread had passed through. His stomach was quite full at the time, and upon removal of the tube, which was kept clamped with an artery forceps, there was a free escape of stomach contents, and the end of the thread floated out through the fistula. A heavier thread was at once attached to the mouth end of this one, and drawn through the stricture, and to this a still larger thread attached and drawn through. The two ends of the latter were then tied together, first passing the stomach end through the drainage tube. Each day a larger thread was drawn through and finally three of the largest were in place at one time. On October 18th a small drainage tube was drawn through the stricture and allowed to remain two hours, then withdrawn, to be again drawn into place the next day. Every few days the size of the tube was increased until early in January, 1905, a No. 14 catheter was used.

On January 11th the string was removed and drainage tube taken out of the fistula. A bougie was then passed through the stricture per mouth, and this has been continued every day or two up to the present time.

On January 5, 1905, I began giving the patient thiosinamin, grs. iii, once a day. On

January 12th this was increased to grs. iii, twice a day, and on January 27th to grs. iii, three times a day. On February 3rd this was stopped, as patient complained of a feeling of weakness, which might, however, have resulted from his eating but a small amount of food, owing to the fact that his abdomen was strapped rather tightly with adhesive strips in the effort to close the fistula, and food, when taken, except in moderate quantities, distressed him. The administration of the thiosinamin apparently made it possible to increase the caliber of the bougies, and more rapidly than ever.

On February 20, 1905, the patient was anesthetized and the gastric fistula, which was now about the diameter of a lead pencil, closed by dissecting away the scar tissue and separating the stomach wall from the abdominal wall sufficiently to insert sutures into the former, but without opening the peritoneal cavity. The abdominal wall was then closed in layers, secondary sutures over a gauze packing being used in the skin. Primary union.

A No. 28 esophageal bougie is now passed with ease.

CASE OF COLLOID CARCINOMA OF THE CECUM.

N. P., a female, aged 25, single, clerk by occupation, father dead, cause unknown, and mother died of consumption. No brothers or sisters. The personal history was negative until the summer of 1901, when she was seized with pain in the right iliac region. The onset was gradual, and followed in about forty-eight hours by vomiting and high fever. She remained in poor health for six weeks, when a diagnosis of appendicitis was made, and appendix removed. She recovered slowly after operation, but complained chiefly of weakness.

In August, 1903, patient began to have attacks of pain, vomiting and fever, lasting ten to fourteen days at a time, with intervals of several weeks. Pain was cramping in character, and more generally distributed than before. The latter part of July, 1904, she noticed a slight swelling in the right

iliac region. She had pain in the right iliac region, which radiated at times into the right lower and upper extremities. She experienced some difficulty in walking. There was much distention of the bowels by gas; constipation.

Examination revealed a firm mass, not adherent to the abdominal wall, with limited mobility.

Operation, September 22, 1904, at Wesley Hospital. A small incision was made over the tumor, and when the nature of the tumor mass was recognized, by examination through this opening, a long median incision was made. The ileum was divided near its lower end. Since it was found that the ascending meso-colon contained enlarged lymphatic glands, almost the entire ascending colon and its meso-colon were removed along with the cecum, the colon being cut across near the hepatic flexure. The ends of the divided bowel were closed by two rows of sutures, and a lateral anastomosis was made by a Murphy button between the ileum and the transverse colon. The ileum was dilated and its walls much thickened. The abdomen was closed without drainage.

The patient had a tedious convalescence. For many days she suffered from great abdominal pain, with occasional emesis, and got very little sleep. Gradually, however, she improved and on October 25th sat up in bed. The button did not pass until October 23rd, thirty-one days after the operation. On October 27th she was put in a wheel-chair, and on November 3rd walked. When she left the hospital, November 24, 1904, she was in a fair condition, and when seen about January 1, 1905, was in vigorous health.

The fresh specimen showed the walls of the cecum much thickened and indurated, with lumen so reduced in size that the little finger could not be passed through it. Adherent to the cecum was colloid mass, almost the size and shape of a hen's egg, and there were several similar masses of smaller size in the immediate vicinity.

On February 11, 1905, I met the patient on the street. She looked well but said that two weeks previously she had a few abdom-

inal pains and thought she detected some swelling. On February 14th I was called to see her at her residence. She was suffering great abdominal pain, and a large mass, filling the entire right lower quadrant of the abdomen, could be palpated. Four days later she was removed to Charity Hospital. The tumor gradually enlarged till it occupied the greater part of the abdominal cavity. Patient died April 16, and on April 17th an autopsy was made by Professor F. Robert Zeit, to whom I am indebted for a report of the findings, which are in part as follows:

"It appears that one enlarged carcinomatous mesenteric gland, which had been left behind at the operation, was the source of the large secondary growth found at the post-mortem. No other metastatic tumors were found, and this tumor had a distinct capsule and was attached by a pedicle to the mesentery at the seat of the operation.

The anatomical diagnosis was as follows:

1. Solitary metastatic colloid carcinoma of mesentery. Size 40x28x21 cm. Weight 4490 grammes. Adhesion to right ovary and fimbriated extremity of right tube.

2. Pyelonephritis of right kidney and pyoureter (due to pressure of tumor, causing intermittent obstruction).

3. Enterocolitis with pelvic fibrinous peritonitis and perforating ulcer of ileum. Septicemia.

The last condition was the direct cause of death."

IMMEDIATE DIAGNOSIS AND TREATMENT OF LACERATIONS OF THE VAGINA AND PELVIC FLOOR AND PERINEUM.*

BY C. S. BACON, M. D., CHICAGO.

In any discussion of the obstetrical lacerations of the lower part of the obstetrical canal it should hardly be necessary to refer to the old and popular error that the perineum is the chief structure liable to be involved.

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

This misconception, however, is so deeply rooted that it is never safe to omit a reminder that all structures of the vaginal tube and its supports and attachments not only may be but frequently are torn by the stretching and tractions and the other stresses of the natural or artificial forces that advance the child and terminate in its expulsion from the body. We may have a tear longitudinal, transverse, oblique or irregular, of any extent, of any part of the tube itself. We may have such a tear involving not only the tube, but also its supports and attachments, namely, the muscular and fascial structures of the pelvic diaphragm, or it may involve the latter without tearing the tube itself. It is only when we keep clearly in mind all these possibilities that we are able to look for and find the injuries whose importance we are always more and more learning to appreciate.

For convenience of description and quite without reference to anatomical or other scientific basis, we may make a practical classification of tears of the vaginal body, pelvic and perineal region as follows:

First. Outer tears. These are through the skin and mucous membrane of the vulvar and perineal regions and also those involving the subcutaneous fasciae, vessels and nerves and various layers of muscles that are in intimate union with the lower end of the vaginal tube through which it passes. The anterior of these outer tears in the region of the labia and vestibule are most commonly parallel with the vulvar opening and sometimes completely encircle it. Occasionally but more rarely they are continuous with tears in the anterior or side walls of the vagina. The posterior or perineal group of the outer tears generally begin in the posterior commissure of the vulva and extend back through the raphe toward the anus. If the tear reaches the sphincter and it may pass to one side of the rectum or it may divide and form an inverted Y around it. Sometimes it passes through the sphincter, forming a complete laceration. The longer the tear the deeper it is as a rule. If it reaches only the central part of the perineum it may only injure the skin and sub-

cutaneous fascia, not seriously disturbing the outer constricting layer of muscles, the muscles bulbocavernosi. When the tear passes through the central part of the perineum it divides the outer constricting layer completely and may also injure the deeper constrictors, namely the vaginal portion of the muscles trigoni urogenitalis. Any of these perineal tears may be simply outside tears or they may be continuous with tears of the vaginal tube.

Second. Inside tears. These may be (a) only in the vaginal wall or (b) they may involve also the perivaginal tissues including the pelvic diaphragm or they may not involve the vagina at all, but only the fibres of the levator ani or pelvic floor. In any case they may be in any part of the surface of the vagina, but generally they are located posteriorly on one or both of the lateral walls. They may communicate with an outside tear or they may exist with an intact skin.

Diagnosis concerns not only the finding of these lacerations, but also the determination of their extent and importance. There are some difficulties in the way of making a diagnosis of internal tears that should be well considered. Either touch or inspection after the use of retractors or specula is necessary. Both cause the tired and bruised patient some pain and both involve some risk of infection. The pain could be disregarded in many instances or overcome with anesthesia if necessary. The risk of infection is more serious and must be carefully weighed especially when advising a plan of treatment for general adoption. It is one reason why Hirst, Dickinson and a few others have recommended leaving a puerpera alone after labor, making no attempt to diagnose or repair lacerations and wait for some days when an examination is made and if necessary a secondary operation. Another reason for this practice is the asserted fact that the results of immediate operations are unsatisfactory. The operation is generally done with unfavorable surroundings and with little assistance. Asepsis is not maintained and good restoration is not secured. Hence entire or partial failure results. If the examination

and operation be delayed a week perfect surgical conditions may be secured and a better examination may be made for partial involution will allow defects to be found that might have been overlooked at first.

To this method of procedure there always will remain the obvious objection that the patient generally will oppose strenuous resistance to a plan that involves, a week after confinement, an anesthetic and operation and the proportional longer term in bed. It is so opposed to present practice that it would seem to many patients a serious confession of malpractice. It would be permitted only in the most serious cases and most injuries would go unrelieved. Even now many lacerations are neglected because the physician hesitates to admit a tear for fear he will be blamed. I think we all must agree that Hirst's plan, even if best, is quite impracticable.

I do not admit, however, that immediate examination and repair need be dangerous or a failure. It may be safe and successful if the same care is used as is employed in a secondary operation. This involves a radical change in the technic of most physicians, but it is high time that such change be made. Only in case the patient is in serious condition on account of hemorrhage or other complication should the examination be deferred.

In some cases of non-operative labor no internal examination is necessary. When there is no sign of hemorrhage until the head is expelled there is no laceration of the vagina unless there is an outside tear. If the latter is not extensive its inner limit can generally be seen without internal examination. There is, however, a good index of inner tears that should cause one to search for them even if the outside is intact. I refer to the slight hemorrhage in the latter stage of the expulsion of the head when it begins to markedly distend the perineum during the forward movement of a pain. This indicates an internal tear that is often much more extensive than suspected.

When this vaginal hemorrhage occurs or when there is a considerable perineal tear

or after any operation an examination should always be made to discover the presence and extent of a tear. As a rule palpation alone is unsatisfactory and should not be relied on, although it may enable us to confirm a suspicion of an extensive tear and thus obviate a preliminary unnecessary inspection. Although a better examination can always be made on a table and one should always be used if there is a probability of an extension into the pelvic diaphragm, yet as many slighter injuries can be repaired with the patient in bed with elevated hips the latter position may be employed in the average examination. If the patient has not been shaved or closely clipped this should be done. Then all sponges and instruments should be in readiness. For the examination one rather large retractor with a blade at least two inches wide and three inches long is needed, as well as a pair of dressing forceps and one or two pairs of volsellum forceps. For a light a good lamp is best. If a nurse or some assistant who can hold the speculum be present the lamp should be placed on a convenient stand and the operator should use a head lamp. For this case the patient must be across the bed. Otherwise she may remain lengthwise in bed with the hips well elevated on a douche pan and the thighs well flexed.

In some instances when the third stage is prolonged and there is very little flowing the examination may be made while waiting for the expulsion of the placenta. The cord should be cut off as short as possible and sponges packed into the vagina to protect the field to be examined. In case the placenta has been expelled care should be taken to keep the uterus well contracted and similar tampons used to protect the field.

The question has sometimes been raised whether a tear through the levator ani muscles that does not involve the vagina can be diagnosed. I have been unable to find sufficient evidence of this condition to justify operative interference.

The indications for repair are hemorrhage and the evil consequences which result when the torn structures are allowed to heal without being brought into coaptation. Hemorrhage

hage of sufficient severity to demand suture is not common but occasionally rupture of vaginal varices give rise to bleeding that can be stopped in no other way. The hemorrhage from tears in the vestibule and in the labia is often profuse. The chief reason, however, for suture is the gaping condition of the vulva and prolapse of the pelvic contents when the perineum and the pelvic diaphragm are left injured.

Spontaneous healing is a delusion. Retraction of the divided ends always occurs and the healed wound is one with the gap unfilled, covered with scar-like skin or mucous membrane.

The chief point in repair operation is proper preparation. Except for smaller external tears the patient should be on a table. In every house there is a kitchen table which answers the purpose admirably. The Kelly pad or rubber sheet which the physician carries furnishes the drainage. The table should be put in the best position to obtain light. A sheet can be applied to hold the legs in place and save one assistant. Instruments, sponges and irrigator are made ready. For instruments besides those needed for examination only a needle forceps, needles and scissors are required. For internal suture catgut which will live for two weeks and for the perineum silkworm gut are best. I always advise ether anesthesia, believing that it does not harm the patient and that it enables me to make a better repair.

The cross bed is very frequently used instead of a table. It has no advantages and many disadvantages and should be discarded.

The method of operation in internal tears is as follows: The retractors being introduced anteriorly, the vagina cleaned and gauze or cotton tampons being inserted to keep the field clean from the uterine discharge, the catgut suture is inserted into the upper angle of the vaginal wound so as to grasp not only the edges of the tear in the vaginal tube, but also the retracted ends of

the levator ani muscles. In this way the muscle is attached to the vagina and thus an abnormal condition created, but its function is restored and this is the best that can be hoped for. Sometimes effort has been made to fasten together the divided ends of the muscular diaphragm as in the operation of M. L. Harris. This ideal operation requires more skill than is possessed by the average physician and can hardly supersede the operation described.

It is not a matter of great consequence whether a continuous suture or interrupted sutures be used in the vaginal wound. The main thing is to close the wound thoroughly and thus avoid the formation of a pocket or receptacle outside of the vagina for blood and secretions.

Especial attention must be given to cases of laceration beginning in the vagina on one or both sides involving the pelvic diaphragm, extending into the central attachments of the accessory diaphragm, urogenital trigone, but not involving the skin surface. Sometimes it is here better to cut the skin bridge and make the repair in the usual way. Careful restoration with the catgut suture used in the vagina will succeed if the suture be durable enough. The usual cause of the frequent failures in these cases is that retracted parts are not brought together properly. A clear picture of the normal relations should be obtained and always kept in mind.

The simple external tears are easily brought and held together by silkworm gut. The most important point to observe here is that the suture be not tied too tightly. If the internal sutures have been properly applied, the perineal wound left is similar to a simple tear and is repaired in the same way. The very common mistake in all repair operations is to close the external tear and overlook the internal.

For a complete rupture there are two methods of suturing the rectal wall to restore the rectal tube. Some pass the suture from the perineal side, grasping sufficient

tissue to hold the suture but not going through the mucous membrane. After the restoration of the rectum the perineal suture will of course completely bury the first layer.

According to the other method the sutures which restore the rectum are passed through the mucous membrane and tied inside. This is a simpler technic and practically satisfactory, although not so ideal. The closure of the perineum differs from that in ruptures of less severity only in requiring a careful reunion of the divided ends of the external sphincter that are generally widely separate.

The advantage of silkworm gut suture for the perineum is well known. The chief objection is that the ends are apt to stick into the skin, producing considerable annoyance. To combat this annoyance the ends are sometimes left long and all the sutures fastened together. To this practice there is the objection that the bundle of sutures collects the discharge, and further it often leads to traction on some of the sutures. For these reasons I prefer to cut short the ends and run the risk of some of them being slightly buried in the skin.

In the after treatment chief stress should be laid on keeping the parts clean. Powders are of little or no value and may be objectionable if they form crusts that retain contaminated secretions. Catheterising is unnecessary and for general reasons to be avoided if possible. Irrigation or careful washing after urination will remove all traces and any danger from its contamination. Vaginal irrigation is indicated only when there is obstruction to the lochial flow from the vulva and it becomes contaminated and begins to have a putrid odor. Perhaps the most important thing to consider in the means to keep the wound clean is the nature of the dressing. It should be occlusive and at the same time not interfere with the free escape of the lochia. The same kind of dressing is desirable in all puerpera, but here it is especially important. It should be of

gauze and cotton about eight inches wide and long enough to be fastened to the binder before and behind. It should be fastened at the four corners and then will fit tightly around the thighs, while it will be loose and sac like in the middle. Such a napkin will prevent the discharge flowing out along the thighs, as always happens when the ordinary dressing is held in place by a T band.

The bowels should be kept soft and moved on the second or third day. The external stitches should not require removal before the tenth day, and sometimes be retained until the fourteenth day. It is better that the patient remain in bed until the sutures are removed.

If we bring together the chief points in the treatment of vaginal-pelvic floor and vulvar lacerations we see that there are some differences of opinion in regard to the time of operation, and also in regard to the nature and technic of some procedures. As the most important differences we find Harris carefully uniting the torn ends of the levator ani muscle, while most physicians content themselves with attaching this muscle to the vaginal wall. There is also a difference in the method of restoring the rectal tube. Any operation will, however, give good results if it be carefully made and close attention given to details and technic and subsequent treatment. Without such attention to details we shall continue to have many poor results and total failures and considerable infection, so that the doubt of the wisdom of any repair receives some justification.

Discussion.

Dr. M. L. Harris, Chicago: I wish to say a word or two in emphasizing the importance of the muscular tissue entering into the formation of the pelvic diaphragm, for the reason that there is a tendency of late among some gynecologists to lay particular stress on the fascia. The pelvic diaphragm is in almost constant motion—in fact, in almost as constant motion as the great abdominal diaphragm; it descends and rises with every descent of the diaphragm. We have no instance in the human economy where weight is sustained, or pressure or tension maintained continuously

by fibrous or connective tissue. It is invariably held and maintained by muscular tissue; consequently we cannot expect that the weight which comes on the pelvic diaphragm to be maintained by fascial tissue alone. The importance, therefore, of restoring the muscles to as near their normal condition as possible following lacerations of these parts cannot be too much insisted on, and I am sure, if obstetricians would follow the advice of the essayists to repair these tissues immediately following labor, there would be less operating necessary subsequently.

Dr. Henry P. Newman, of Chicago: I wish to compliment the essayists on their very excellent resume of this important subject. It is a subject too large for one to discuss in the brief time allotted. However, I shall call attention to one or two points that ought not to be passed over lightly. I would like first to emphasize the indications for repair of the cervix. We do not operate for the primary tear in the cases that come to us as gynecologists. We operate for the accrued pathology. It is true that in this the primary tear is a causal factor, and if it were corrected early we would have, perhaps, none of the indications for this secondary operation. The indications are for something more than simply sewing up the laceration of the cervix. There is infected tissue to be removed, as Dr. Watkins has pointed out, and why should our work stop short of this. Why not, so far as we can, correct the pathology that exists? If we do this we have got to remove tissue which the essayist has been very careful not to remove, namely, the undenuded surfaces along the anterior and posterior portions of the cervix, which he retains for the preservation of the cervical canal. To my way of thinking, we should not leave behind undenuded mucous tissue that is involved even more, perhaps, than the angles of the cervix. We will find in most cases these structures eroded, everted, very much enlarged, the glandular tissue deeply involved, and to leave such infected tissue would serve as a menace to the restoration of the case in every instance. Consequently, operative work that contemplates the reconstruction of the cervix is essential, restoring it to as near a normal condition as possible, taking away the infected or involved area and leaving the organ so that it can functionate properly, free from infection and accrued pathological changes. Tracheloplasty, an operation which I have designated by that name, is appropriate for these cases as it fulfills all the indications for plastic work upon the cervix, fitting each operation to the individual case and not implying a classical method of handling all cases. In other words, each case is a law unto itself. All of the involved tissue is removed

and the cervix is restored to as nearly its normal condition as surgery can accomplish. I cannot go into detail in regard to the technique of the operation. The method is known as Tracheloplasty and I would refer you to the publications which give a description of it. I was very much interested in the paper of Dr. Bacon and wish to thank the author for presenting the subject so ably and impressing upon us the importance of the pelvic diaphragm and of the parts that are concerned in childbearing.

Dr. Emerson M. Sutton, of Peoria: I wish to say a word or two in regard to the time of keeping patients in bed after operations for laceration of the cervix, which we are told is apparently somewhat a preventive of cancer. If for no other reason, I believe lacerations of a severe degree should be repaired early, because at the time of the menopause there is a tendency to malignant disease. The essayist puts the woman to bed for a couple of weeks, and, it seems to me, makes too much of an operation of it. These patients may have the cervix repaired, and can sit up in a short time. I have used chromicized catgut in all these operations for the last four or five years, and it has given much better satisfaction than the old way of putting in silkworm gut sutures. In order to make the catgut last longer, both in cervical and perineal work, we use an alum douche, which has a tendency to prevent the accumulation of bad secretions. One of Dr. Bacon's remarks was that no douche is to be used after the operation unless there is a bad odor from the secretions. If this alum douche is used immediately after the operation, and the catgut sutures are used throughout, the alum prevents too quick an absorption of the catgut and prevents the occurrence of disagreeable secretion, keeps the wound dry with alum powder about the stitches. To me it has given the best satisfaction. In an attempt to repair a lacerated perineum immediately after labor, it depends altogether on the man. I have seen the perineum repaired by physicians who were afraid of this one thing, that patients would consider them guilty of malpractice if they did not repair them, yet they did not have the ability to repair a cervix as it should be repaired. In such cases the women had better be operated on for these lacerations later; but, at the same time, if the physicians have ability to repair them, it is an easy matter to do it.

Dr. Bacon (closing the discussion): I am obliged to Dr. Harris for emphasizing the physiological principle that muscle is the important structure in the pelvic diaphragm, as it is in all diaphragms. It seems to me strange that any other idea could be held.

In regard to the indication for operation

mentioned by Dr. Lewis, namely, repairing even a slight laceration for the purpose of preventing infection, I presume there is undoubtedly something to that. But this point should be considered, that the laceration in four cases out of five is larger than we anticipate.

In regard to the douche, I think we recognize now the danger of introducing any foreign substances that exert an action on the tissues that is harmful. We know that bichloride of mercury, for instance, will interfere decidedly with the physiological function of the mucous membrane of the vagina and of other living tissues. We know, for instance, that an artificial contamination of the vagina will disappear within twenty-four hours, as a rule, because of the normal bactericidal secretion of the vagina. We know, too, that if previous to this artificial contamination a vaginal douche has been given of bichloride of mercury or some other agent that injures the tissues, then it will be two or three times as long before the contamination disappears, and that is the reason why we should be very careful about using a douche. As a rule, the best douche is of normal salt solution.

What Dr. Sutton said about the operation depending upon the skill of the physician is very true. I had that matter brought to my attention two or three years ago, when I had as a patient a woman who had formerly been a trained nurse; she had been an obstetric nurse for many years before she was married, and had nursed for some of the best obstetricians in the city, and had observed their treatment. One day before confinement we talked over the question of preparation. She begged me not to make any repair operation, because she said it was her experience from the cases she had nursed such operations were always failures, and she was afraid of such a result in her case, in case an operation was undertaken. That, I think, does not exaggerate the ordinary or average experience of physicians. I have no doubt that many patients would get along better if they were not operated. Sometimes a little bridge is built up; there has been an extensive tear through the entire perineal region, and the operator has either not made a proper repair, or has made some error so that it did not hold, and the result is a little skin bridge which is worse than useless. So unless the operation is done right, it should not be done at all.

THE CAUSES OF TUBERCULOSIS IN THE STOCK YARDS DISTRICT.

BY CAROLINE HEDGER, M. D.,

AND

ELIZABETH JONES, CHICAGO.

This work was originally undertaken for the Chicago University Settlement, as a local physician had stated we had the highest mortality from tuberculosis in the city. This is not true; the figures from the death reports at the health department for last year and the cases cared for by the visiting nurses show about 28 per 10,000 living in the Twenty-ninth Ward, while the First Ward of Chicago shows nearly twice that number of cases per 10,000 living.

To find why we have 10 per 10,000 more deaths than the average for the whole city, the following steps were taken: A house investigation was planned, the sources of food were considered, the relation of work to the disease was considered in a district immediately surrounding the yards.

The district, chosen covers four square miles, including the yards—extends from Thirty-ninth to Fifty-fifth and from Halsted Street to Western Avenue. The general aspect of the neighborhood is poor, the streets dirty, the air polluted by the yards and the city dump, which is located in the western edge of the district. The filth laden Bubbly Branch, the outlet of the sewers from the yards, bounds the district on the north, while a surface ditch in lieu of a sewer, extends along the western edge of the district. These sources of air pollution are all preventable and should be prevented.

The population of this territory furnished by the Small Park Commission is 44,900, the highest number per acre being 113, the lowest 3 per acre in the yards where almost no one lives. This, as compared with other districts in Chicago, where tuberculosis ex-

ceeds the average for the whole city, is sparsely settled.

The records of the Health Department were read over, as their statistics cover only sanitary districts, and for the years 1901-02 and half of 1903 a little less than 200 deaths were found in this district. Name, age, sex and address were copied, and 150 of these houses were visited and inspected from roof to cellar according to the points on the accompanying card. Fifteen houses gave histories of other cases of tuberculosis in the house in other years, or other cases in the family in which the death has occurred, one house having had in its walls thirteen other cases, yet the girl who died there in 1902 had contracted the disease elsewhere and came there to die. Another case in this house had moved in, and hearing the history of the house, had moved out, and the other twelve were all of one family. The people in this house all appeared healthy at the time of the inspection.

In not a single house in the district could the disease be traced to the house, exclusive of other sources. The houses are detached as a rule, with more or less narrow passages on each side, mostly two stories in height; only one was four stories high. The yard was usually in the rear; only ten were recorded as having no yard. On future examination this will be different, as there is noticeable now a tendency to build over the whole area of the lot. One hundred and twenty-seven had sheds or barns on the lot, and three had two houses on the same lot.

In the matter of light, the average per cent of dark rooms per apartment was eight-tenths of one—this because of the narrow passages and the habit of keeping blinds closed to prevent inspection by neighbors. Of totally dark rooms, twenty-nine were used as bedrooms, twelve as kitchens.

Very few of these were inside rooms, and air shafts are in this district almost unknown.

As to sanitary conditions, 62 2-3 per cent had open plumbing around sinks; 20 per cent of the plumbing was bad; 2-3 of the closets were in the yards and most of

the rest in the basement or back porch of first floor; 36 were vaults, against all provisions of the tenement house law; 80 had sewer connections without water; the rest had water and sewer connections. This having closets in the yard is almost a necessity, as the water pressure is such that closets on the second floor for days and weeks will not flush except nights and Sundays, due probably to the immense use of water in the Stock Yards, and consequent reduction of pressure; 22 closets were absolutely bad, 45 medium, 66 in good condition and 17 unaccounted for.

In regard to the crowding in the houses, it was difficult to arrive at the facts; the only way was to get each one of the average four families in a tenement to estimate the borders of the other three, so the figures given in this connection cannot be exact. The average number of children per apartment was found to be 4.5, the average number of adults 6.3 and the average number of sleeping rooms 3.8, and from observation I believe that at least 4 people commonly sleep in a small bed room.

The number who sleep with closed windows was not statistically taken, but from conversation and observation it is extremely high.

These last factors seem important in considering the exiology of the disease in the district and show the campaign of education necessary to bring about ventilation and the adjustment of wages and rent that will enable a working man in the Yards to provide more bedrooms for his family. In another study of 148 families in the district the average rent was found to be \$7.30, which in comparison with the average wage brought out further on will show that from 15 to 25 per cent of the earnings go for rent.

Early in the investigation, it was seen that other factors entered into the etiology of tuberculosis here, as much as any housing question and some work was begun on the sources of food supply, groceries and bakeries. This has not been completed, but so far as done shows the usual careless handling of bread and vegetables and the exposure to street dust that is characteristic of other

neighborhoods. A large proportion of the bakery stuff is made outside the district and has not been followed to its place of manufacture.

As many of the cases worked in the Yards and as many of the families gave their work as the cause of the disease, visits were undertaken to the Yards both alone and in company of the deputy factory inspector. When going alone, the killing floors were exhibited in extenso. The machiney, cattle pens, cold storage, but very few workers. With the factory inspector were seen the labelling and canning rooms of several firms. The sterilizing and trimming rooms, butterine and soap departments.

A few isolated facts will show why the next step was taken in the investigation—a large proportion of the workers seen, worked by electric light and one of the canners assured me that in winter he did not see daylight except on Sunday for months. No spitting signs were visible. Two closets used by 80 women would neither of them flush; other closets were separated from food preparation department only by single board partitions; other closets, conspicuously marked "Ladies only," were open wide.

Women worked in a cooked meat trimming room with the steam from the boiling room above pouring down on them. A door would have saved them. Other women worked in a can sterilizing room in steam so dense one could not see one foot. Other women worked at packing cans in a room where cans were soldered and sterilized in great cauldrons; a wall, 16 by 100 feet, would have cut off the steam and soldering fumes.

Men and women were weighing and packing cans in an atmosphere so dense that I doubt if they saw their work with any clearness.

Other women painted and labeled cans in an atmosphere almost unbearable from turpentine, and with a speed and fierceness of labor that made them seem more driven than the hung up carcasses that rushed along on the cranes overhead, in other parts of the plant.

While these things seen were suggestive of

sources of vital depression conducive to tubercular infection, some statistical facts seemed necessary, and a labor card was devised covering eight questions. The form of this card is appended.

The Packing Trades Council was interested and sent out from their office 9000 of these cards in five different languages. Not one card ever came back. Personal friends expressed the fear of losing their job if they told the conditions under which they worked. While this is negative testimony, it certainly suggests that conditions would be changed at some cost to the employer if the public realized the burden to the community at large from the increased sickness and dependence of the workers. This has been well worked out by Mr. Bushnell in his study of the Yards in the *Amer. Jour. of Sociology*, 1902.

Mr. Bushnell also brings out another etiologic factor in his table of wages, in which he gives the average yearly wage of the unskilled as \$347.36, skilled as \$512.47.

Solomon states that in Germany the following relations exist between the wage and tuberculosis.

Per 10,000 living with income \$250-300, 3.9 die.

Per 10,000 living with income \$300-500, 2.61 die.

Per 10,000 living with income \$500-650, 2.01 die.

Per 10,000 living with income \$850, 1.07 die.

If this relation holds good here, one of our etiologic factors may be assumed to be our low average wage.

Another element in the causation of tuberculosis in part dependent on the wage is the food and drink of the neighborhood. In many cases, the cause of the "con," as it is familiarly called by the people themselves in the neighborhood, is ascribed to alcohol. Several cases were ascribed to drinking cold beer when heated, and one type of the disease is called "whiskey consumption" by the people.

The long or irregular hours of work, low

wages, precluding other diversions and poorly arranged dietary, doubtless increase the consumption of alcohol and the tendency to contract tuberculosis.

There are in this district 300 saloons, 45 being located in two blocks just outside the Yards, all of which I am told contain restaurant and saloon features and are at noon extensively patronized.

In the diet, the consumption of bakery stuff and coffee is the most striking characteristic, but irregular meals, poor cooking and total ignorance as to the needs of the body are only too apparent.

In summing up we have:

1. Low average wage.
2. Comparatively high rent.
3. Consequent crowding in houses.
4. Factory conditions of deficient day and sunlight, deficient ventilation, deficient regulation of spitting.
5. Poorly managed dietaries.
6. Air pollution from various sources.

THE TUBERCULOSIS PROBLEM IN ILLINOIS.*

BY HOMER M. THOMAS, A. M., M. D., CHICAGO.

The Bloomington meeting of our Society will forever be memorable. It expressed the crystallized consensus of medical conviction that tuberculosis can be cured in Illinois. What a step forward this meant! Too long had we groped in the darkness of despair. Years of experiment and despondency were to be succeeded by the new hope and verified by demonstrated cures. The error of the past has been in seeking to cure mainly by systemic drug domination. To supersaturate the system with supposed antibacillary antagonists. This former therapeutic conception for the treatment of tuberculosis led to over seventy-four special treatments being advocated by physicians in this country alone, since the discovery of the tubercle bacillus in 1882. The comprehensive resumé upon which rests this statement was pre-

sented by the writer before the Chicago Medical Society in October, 1904. In it was shown that nearly every drug in the pharmacopeia, and nearly every method of a physical, electrical, hydropathic or mechanical character had been scientifically studied. And all to what purpose? The only scientific resources today which have stood the crucial test of time and experience are hygiene, diet and climatic environment. We now know that the best way to systemically elaborate antibacillary toxins is through a high vital resistance. This is secured mainly through an abundance of pure air, pure water, pure food and individually indicated exercise.

Illinois, the State standing third in the list of sister States in mortality from tuberculosis, is among the first to demonstrate its curability. The locality chosen for this convincing proof is the inland city of Ottawa. Our own Dr. Pettit has here successfully established a camp for the outdoor treatment of tuberculosis. He has here gathered up and crystallized into effective effort the best of scientific suggestions. Here on a wooded hilltop, with sandy soil and perfect drainage, overlooking a running stream, has been established the first tubercular camp. Here, surrounded by all the natural agencies which promote bodily vigor, and encompassed by scientific security, will the tubercular be restored to health. To this chosen spot, where nature revels in the multitude of her health-restoring resources, will journey the afflicted. But not alone in this spot, but in any spot where nature can encompass our bodies. Climate has been commercialized. From the far-off Western slope has come the dogma, there and only there can you be cured. Leave home and friends, and journey far, for only in certain sacred spots can you be healed. Medical science of the twentieth century places the stamp of falsehood upon such a monstrous claim. The blessings of nature are universal. They are all about us. All we have to do is to trust ourselves to them. Not by living in sunless houses, with dampened basements, moisture-laden walls, darkened bedrooms, heavily carpeted

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

floors and draperies of death; but where pure air and sunshine can circulate in every crevice, and death-dealing decay be banished by the universal chemistry of nature.

There are certain facts concerning the atmosphere which should never be forgotten. Air is a ponderable, actual entity. It has weight and inertia. It does not move, except when some force is applied to it. Air cannot move any more than the desk from which I am speaking, without some applied force. When we begin to realize this obvious fact will the problem of ventilation which is inherently one of moving masses of air, from one place to another be understood. Probably the most important and yet the most neglected form of ventilation today is that of our bedrooms, in which we spend a third or more of our lives. There should be in all sleeping apartments such a natural ventilation, or a mechanical ventilation, as will permit a free entrance and exit of pure air. We must recognize the difference between cubic feet of space and cubic feet of air. Fresh air must pour in at many openings to replace the air withdrawn, and through this process ventilation, which is at root the moving of air, is attained. The ventilation of our public places is almost universally lamentable. We should have a law that would provide that the air we breathe is liable to be analyzed at any time. If it is found to persistently contain more than six parts of carbonic acid, in ten thousand parts, legal punishment will follow.

From a consideration of these basic principles, let us view the tuberculosis problem in Illinois in some of its practical phases. Illinois loses every year at least 8,000 people from tuberculosis. The majority of these die in the most active and productive period of their lives. Many have been disabled for years preceding death. There is no other disease which entails so much suffering and economic loss to the State as tuberculosis. We believe that this suffering and loss can be largely prevented through the early recognition of the disease, and its rational treatment by properly managed sanatoria.

Statistics of sanatoria now in operation show that in 75 per cent of the patients treated, the disease can be arrested. This is an enormous gain in the treatment of a disease which for so long was considered incurable. Not alone in the number of patients whose disease is so arrested, is the beneficial influence of sanatoria found, but their vast educational influence is so great, that the further spread of the disease is largely prevented.

"The prolongation of life by the suppression of preventable disease is of much greater value to the State than the cost of the means employed."

The prevention of disease by the Japanese in their present war with Russia is highly commendable. The physicians and sanitarians have preceded the army; not as in former wars, followed it. The water supply has been tested, foods inspected and protection against infectious diseases secured. The result of this highly scientific scrutiny has been in a phenomenally reduced death rate from purely preventable causes.

Illinois, the State of vast industrial activity, tremendous agricultural resources, broad educational institutions, the home of great statesmen, scientists and philanthropists, must be freed from the blight and devastation of tuberculosis. Science has clearly pointed the way to accomplish this end. We should occupy the most conspicuous position in the field of preventive medicine. We should attain the best possible means for the protection of our millions of people from this disease.

Aside from the well-known means of disposing of tubercular sputa, by which we avoid infection or existing reinfection, is the important problem of early diagnosis. It is doubtless true that many cases of tuberculosis are entirely overlooked from a lack of thorough examination.

This should not be. In this age of instruments of scientific precision such negligence is inexcusable. To overlook the early diagnosis of tuberculosis is to stultify scientific struggle to control the disease. The detection of the systemic pretubercular

stage, or diathesis, among patients is supremely important. What are the habits and environments which make us receptive to the disease? Worry, overwork, overexercise, indigestible food, loss of sleep, vitiated air, constipation, overstimulation. We are aware that perfect health is an equilibrium between the systemic forces of construction and destruction. The life which can maintain this physiological proportion is indeed fortunate. We are all aware how difficult it is to avoid mental and physical overdrafts. It would seem as though all social, business or professional prestige is only achieved through overexertion. Nature honors such demands for a time. Finally, the conditions of living exhausts vitality, and the system becomes lowered in its vital resistance. The physiological equilibrium is not maintained. Destruction gains the ascendancy. This condition resolves itself into one of cause and effect. It is right here that the majority of cases of tuberculosis date their inception. It is in the conditions of living that make possible the receptive or pretubercular state. If these conditions can be early detected, and then avoided, many, many cases of tuberculosis would never develop. This situation calls for greater elaboration, for it, in my opinion, strikes at the root of an immense majority of cases of tuberculosis. I believe the time will come when it will be considered a crime against self and humanity to have tuberculosis. It is criminal to labor where death-dealing demands confront one. It is a crime to destroy bodies from eighteen to forty years of life, which should live triumphant for sixty or seventy. No possible considerations of expediency or money should make such a crime justifiable. This outward mental and physical stress is first reflected in slight suggestive symptoms. The physician who can early see and interpret the small symptoms, that estimates the actual condition early, is invaluable to the patient. Symptoms of loss of appetite, slight exhaustion, evening temperature rise, accelerated pulse rate, should early excite suspicion as to the existence of the pretubercular stage. These symptoms

frequently precede for many months the characteristic cough, night sweats and bacilli in the sputum. They are due mainly to the absorption of products of metabolism and disorganizations that are carried away from the breaking down of tubercles by the blood stream, thus reaching many organs of the body and producing vague symptoms, which are at first slightly noticeable. Of course, a case of tuberculosis at all far advanced diagnoses itself.

The effort to have the State of Illinois establish a sanatorium for the treatment of tuberculosis has progressed steadily during the year. The emphasis placed upon the need of such a sanatorium, as conveyed by the symposium on tuberculosis at the Bloomington meeting, has had a widespread influence. The agreement of physicians from all schools of treatment upon this subject led to a united effort to secure an appropriation from the present Legislature for this purpose. Some two months ago a number of physicians actively interested in this project went to Springfield and addressed the Senate and House Committee on Appropriations, with a view of securing a substantial sum for the creation of a State sanatorium.

The appropriations made by the last General Assembly for State Charitable Institutions, including ordinary expenses and special appropriations, were approximately \$5,600,000. The total appropriation granted the State Board of Health was \$53,560. Of this amount, \$10,000 only was to be used in the event of a threatened outbreak of any epidemic in the State. In the absence of such epidemic, this leaves a total of \$43,560 available for the purposes of the State Board of Health for the ensuing year. As the work of the State Board of Health is essentially that of preventive medicine, we have appropriated, altogether, then, about \$70,000 for extending the scope of preventive medicine in our State during the ensuing year. Whilst this sum is, of course, totally inadequate for the demands of the great work for which it will be expended, it nevertheless is a very substantial beginning, and should be the source of incalculable good.

Viewed from the standpoint of economic loss alone, the 8,000 deaths from tuberculosis in 1904 would represent a monetary loss to the State of about \$40,000,000. Since we estimate that about 75 per cent of cases of tuberculosis can be cured in sanatoria, the active spread of this work would lead, were there sufficient sanatoria in the State to take care of all cases of tuberculosis, to an annual saving of about \$30,000,000.

The forthcoming two years should be those of active agitation by the profession and laity for an appropriation for a tuberculosis colony. It is only through professional organization in each county of the State, and personal as well as collective efforts through societies, churches and other forms of benevolent activity, that the proper interest can be created and spread throughout the State. If we can all work as a unit in this line, undoubtedly the next two years will create such an overwhelming sentiment in favor of the extension of tuberculosis sanatoria as to make our legislators feel entirely justified in appropriating a large sum for the furtherance and perpetuation of this work.

In matters of medical appropriations, the voice of the united profession should be supreme. We, and we alone, should be the judge of the amount of money justly needed for preventive medicine. Appropriations should be granted as a command; not as an entreaty.

The sacredness of human life is so great that all considerations merely of money should be laid aside and the always just demands of the profession in this respect be met with immediate compliance. For be it remembered that back of these requests is the united scientific sentiment of the profession as to their vital necessity. A State sanitarium will illustrate and typify the highest scientific judgment and experience in the management of tuberculosis. Its objective influence as well as the personal benefit derived by each case will be incalculable. Fortunately, the modern conception for the shelter of tubercular patients is the more open and exposed to the direct influence of air and sunshine, the better

for the patient. Therefore, the actual construction of the cottages or shacks for patients can doubtless be of a very cheap though substantial character. If in the location chosen for a hospital enough farm lands can be secured so as to make them reasonably productive for the sustenance of the patients, not only will the economic element of their care be facilitated, but the individually indicated work which the patients may be able to do in tilling the soil and other work will be of curative value to the patients themselves.

The Illinois State Association for the Prevention of Tuberculosis has already prepared some suggestive plans for the construction of a State sanatorium. These plans are designed merely to convey a general idea of the broad principle which should be applied in the construction of a sanatorium for the tuberculous in Illinois. They embody the latest ideas of the special requirements for the treatment of this disease, as evolved from a careful study of sanatoria already in existence, and experiences accumulated in their operation in this country and abroad. Three principal points are given the greatest pretensions: First, making it possible for the patient to obtain the largest amount possible of fresh air, with out being exposed to discomfort. Second, arrangements for a dining room and kitchen on the premises, that the nutrition of patients can be best maintained. Third, proper medical supervision, with such arrangements for the study of the disease as will improve the efficiency of the institution. If these three essential comprehensive details can be followed, the sanitarium will doubtless be best adapted for the scientific care of the sick.

The main factor in the solution of the tuberculosis problem in Illinois is to secure our patients an abundance of pure air. It is from the unpierced heights and limitless expanse of the tractless skies that comes the life-giving ozone. Its presence in our blood brings renewed life and vigor. The flagging forces of nature find in its subtle chemistry the antithesis of decay. The sodden skin, the halting step, the lustreless eye,

the clouded brain, under its vitalizing influence are rejuvenated. Would we find freedom from tuberculosis, flee to the orchard, the meadow or the sunlit plain. There, bathed in nature's electrifying energy will tuberculosis be controlled. There will bounding buoyancy supplant the insidious ravages of disease. Pure air, pure air, the most widespread of nature's blessings, and yet the hardest of them to get. How few of us trust pure air. Pure air is the one real necessity that can never be combined in a trust. In all the world it is that of which there is the most of it. Of the twenty-four hours in the day, how many of them do we breathe pure air? We do not stint ourselves in food, but we do in oxygen. We can live weeks without food, but only five minutes without oxygen. Oxygen reduces fever, aids digestion, gives refreshing sleep and heals the lungs.

The tuberculosis problem in Illinois is one that vitally concerns the sources of impure air. These are mainly the home and workshop. Tuberculosis is a house disease. It depends upon the home for implantation, growth, maturity and propagation. The house is the granary of the bacillus. Houses of one kind and another are the ordinary means of spreading tuberculosis. The house is the most frequent means, and the workshop next. This is so because it takes prolonged intimate contact with a person, place, or thing that has been intensely contaminated with tuberculosis matter to give rise to implantation. The home and the workshop are two places where environment and sufficient length of contact for infection most readily exist. Probably three-fourths of all cases of tuberculosis conveyed from person to person are contracted in the home, and one-fourth through the workshop and environment. Homes should be made clean, dry, airy and bright. Buildings in which are employed men and women should be made sanitary, and have a correct standard of air supply and light supply.

The scientific solution of the tuberculosis problem in Illinois seems near at hand.

Never was the prospect brighter, nor the means more available, nor the scientific spirit as strong for the accomplishment of this great end as now. Greatly to be congratulated is the advanced stand taken by the Illinois State Medical Society in this great and beneficent work. Not alone will the greatest good come to those sufferers in our time, but we are here today setting in motion great influences which will be a potent cause of increasing good to humanity in the ages to come. The highest conception of medical science today is in preventive medicine. This Society has taken upon itself the advancement of this great work. Let us go on with enthusiasm, energy and unwavering purpose, that in the end the tuberculosis problem in Illinois may be scientifically solved, and the greatest scourge of all ages be forever banished from our midst.

MIXED, OR SECONDARY INFECTION. —WITH SOME CONSIDERATION AS TO TREATMENT.*

BY ETHAN A. GRAY, M. D., CHICAGO.

In the study of pulmonary consumption it is necessary to take into consideration the fact that we have to deal with more than one pathological process. As a primary infection we have the ordinarily slow tuberculosis, which shows frequent tendency to arrest and cure—which often attracts no attention during the life of the patient. This, of course, refers to the simple, uncomplicated process which we recognize as pulmonary tuberculosis.

However, as R. Pfeiffer remarks, "Tuberculosis does not long remain uncomplicated." The consuming influence of the secondary, or so-called mixed infection, is soon added to that of the milder and more sluggish tubercle, and gives us, as tissue rapidly breaks down, the familiar picture of pulmonary consumption.

The bacterial organisms involved in the

*Read at the 55th Annual Meeting, Rock Island, May 17, 1905.

production of mixed infection are, in the order of frequency, Streptococci, Pyocyaneus, Diplococci, Tetrigenus and Staphylococci; and their implantation usually occurs subsequently to the tubercular invasion, and after the ground has been prepared by the successive pathological changes produced by the tubercle bacilli, although they may be occasionally found before the presence of the t. b. is discovered. In phthisical subjects they are found in tubercle, in cavity walls and contents, and on ulcerated surfaces, whither they are brought by blood-stream, by aspiration or by extension from older infection.

They are also found at times, in the nasal and faucial secretions, and are, in this location, a source of possible danger.

Clinically, the course of secondary infection may be early or late, insidious or abrupt. When early, the microscope may show the sputum to be loaded, as it were, with bacteria, while few or no tubercle bacilli will be discovered; for these latter are often absent until a profuse expectoration flushes them from their scarcely broken nodules.

When the infection occurs late—comparatively speaking—in the course of a tuberculosis, it may manifest itself from time to time, in moderate exacerbations of temperature with a tendency to malaise, and, perhaps, accentuation of the pulmonary symptoms; or, a moderate fever may add itself to the symptom-complex without causing any great distress to the patient. These attacks are often erroneously held to be malaria, grippe, colds and the like; they subside, leaving the sufferer in much the same condition as before, save that he is a bit weaker and more lung has become involved. When the infection has become well established, i. e., when the destruction of the lung has become more rapid, the characteristic temperature of consumption is observed: sub-normal in the morning and higher in the afternoon and evening; the pyrexia being at times ushered in by a chill and followed by more or less sweating. Coincident with the progress of the infective pro-

cess appear emaciation, loss of strength and energy.

Other exhibitions of secondary involvement are seen in the occasional pleurisies and broncho-pneumonia which are so often encountered in the course of consumption. At times the hemorrhage from eroded arteries will be the agent of infection, in that the escaping blood carries from the ulcerating environment, pathogenic bacteria into remote parts of the lung, causing a severe toxic pneumonia which is usually fatal. Caseous nodules, breaking down, liberate countless numbers of disease-bearing germs, which, invading areas of healthy lung, produce an extension of the consumptive process. During the period of infection Ehrlich's diazo reaction will often be observed. Ehrlich, as well as others, has ascribed to its appearance a fatal prognostic significance. It disappears at times, according as the by-infections are cleared up. While its demonstration in a given case does not seem to me to be a certain sign of death, its disappearance after having been once positive, speaks for definite improvement.

As to the treatment of secondary infection, I shall content myself with mentioning Bed Rest, Open Air, Climate, Attention to Nourishment, Hydrotherapy, etc., these are all of value when they can be made use of in an intelligent manner. More especially, I desire to speak of the use and effects of Anti-streptococci Serum, which I have used in a number of cases. I have been able to collect reports of about 150 cases of mixed infection which have been treated by serum said to be derived from the streptococcus. With the exception of 25 cases treated by Menzer, of Halle, all of the 150 cases mentioned are reported by Foss, of Phoenix, Arizona; Bonney, of Denver, and Pogue, of Greeley, Colorado. All report results satisfactory according to the stage at which the infection was treated. Menzer uses a concentrated serum which is cultivated from strep. of human origin. His results are most encouraging, even in a few late cases, where no benefit was to have been expected.

In passing, I would say that Menzer judges of the probability of a cure by the condition of the heart; if the organ be strong, he administers the serum; otherwise, not.

Foss, in a paper published in 1903, stated that he found a decrease in the number of tubercle bacilli in the sputum after the use of antistreptococcic serum, of from 50 to 80 per cent. Bonney, in June, 1903, reported 25 cases so treated, of which 3 recovered rapidly, 4 showed marked improvement, amounting to arrest, 5 improved in a lesser degree, 8 made slight gains and 3 none. Bonney's results were, in several cases, permanent. Pogue, of Greeley, has treated upwards of 50 cases with good results. With the exception of the cases reported by Menzer, most of these cases now mentioned, together with my own, were treated with what is known as Streptolytic Serum.

Before presenting case memoranda I will briefly recapitulate the phenomena attending the administration of the serum; giving a tubercular patient, more or less poisoned with streptococcus infection, 10 per cent of serum daily, for six or seven days, the following symptoms will appear: Fourth to seventh days, slight erythema at site of injection; urticaria soon follows; by the ninth day there may be swelling of face, hands and feet, and the itching becomes almost intolerable; now occurs in some cases, an arthralgia which may involve all of the joints of the extremities, and even the glenomaxillary articulation. The cutaneous manifestations now give way, to be followed, perhaps by an evanescent petechial eruption. The temperature ranges from 100 to 104 degrees; pulse may run as high as 120, or, as in one case, to 150. Following the defervescence, which occurs about the twelfth day, spasms of the gastrocnemii are sometimes seen when the patient attempts to stand. Certain cases do not exhibit the stormy reaction here portrayed, but pass through the entire period with a minimum of discomfort; re-administrations, as a rule, show fever signs of reaction. Although very painful and distressing, the trials and trib-

ulations of this course of treatment are usually well borne by the patients.

When the storm of reaction has passed, and, perhaps, before we find the cough materially lessened and the expectoration reduced to a minimum, if not entirely gone. The sputum now being taken for examination, shows an apparent increase in the number of t.b., owing to its limited amount and concentrated character. On the other hand, streptococci and other bacteria will be found with difficulty, if at all. Not only the streptococci, but all of the other pathogenic forms above mentioned, seem to be directly affected by this serum, which appears to act as a polyvalent, although its makers state that it is cultivated from one strain of streptococcus. The length of the period of immunity to re-infection, if such there be, is not constant: it probably depends on the amount of infection originally present in the individual, the amount of serum given and the amount of resisting power conferred by the treatment or inherent in the patient.

To be taken into consideration, also, is the condition in which the diseased lung still finds itself, for a cure has, by no means, been accomplished. The elimination of the pathogenic bacteria and their toxins has but cleared the ground of complications and rendered the cure of the tubercular disease a relatively easier matter; a re-infection can, of course, take place again, in which case it must be eradicated with the same energy as in the first instance.

In presenting notes on the following cases I would ask you to consider them as cases which have been under treatment for mixed infection, but not as cases cured of tuberculosis.

Case 1. C. S., a young man 24 years of age, married, came to me in October, 1904. He had had cough for two months and had been spitting for two weeks prior to consulting me. By occupation, he was foreman in a machine shop. At his first examination he had a normal temperature, 84 pulse and chest expansion of $2\frac{3}{4}$ inches; the physical examination showed a flattened left chest,

consolidation of both apices. The evening temperature was found to be 99 degrees with occasional jumps to 100 degrees; pulse at such times was 100. The first microscopic examination showed numbers of tubercle bacilli, and a few streptococci. The patient was immediately taken from his work and put at rest in the open air and treated with tuberculine. During the months of October and November he did fairly well, having a low pulse and moderate temperature. But in the first week in December his temperature began to range around 101, and he lost strength steadily. The microscope showed not many t.b., but an enormous increase in the numbers of streptococci. He then received 60cc of streptolytic serum, during the next six days, the various phases of reaction were well borne and the patient emerged from the ordeal in due time, with a normal temperature and pulse. The cough became very infrequent, while the scanty sputum contained no streptococci and but very few t. b., these last appearing somewhat disorganized. On the 3d day of January, 1905, no moist sounds were to be found in the diseased area—in fact, a slight creak was the only abnormal sound discoverable. February 14th nothing was evident but dullness at the right apex. April 27th the patient was working at his trade in a country town and doing well.

Case 2. G. S., male, 34, clerk. He had complained of pulmonary disease for six months before coming to me on August 1, 1904. He gave a history of cough, night sweats, expectoration and loss of weight during the period mentioned; an haemoptysis had recently occurred. Physical examination revealed an apical consolidation with some cavitation on the right side. Pulse 100, temperature 100. Urinary findings, positive diazo, nothing else abnormal, sp. gr., 1020. During the first month of treatment the pulse ranged from 90 to 108, temperature 97½ to 102. Patient was placed out of doors, day and night. September showed a lower pulse range and some gain in appetite. In October hemorrhage occurred and

temperature ran constantly above 100 degrees. Numerous colonies of strep. and staphylococci were discovered.

On October 11th the streptolytic course was begun and continued until 75cc had been injected. Reaction was very severe, general arthralgia being constant after the fifth day until the fifteenth; fever ran as high as 104 degrees. After the wave of reaction had passed the sputum was found to be clear of strep. and very scanty; t.b. were found in large numbers in this sputum which amounted to not more than two drachms in twenty-four hours. The diazo was found to have disappeared. This man went through the winter with open windows and has steadily gained ground; he has since received 100cc of serum because of re-infections. At no time has he been so weak as before the injections were instituted.

Case 3. A. B., Swede, tailor, age 26. Appeared for treatment October 26, 1904. Weight 155 pounds, height 5 feet 11 inches. Gave a history of early alcoholic excess; complained of having had, during the preceding ten months, cough, profuse expectoration, night sweats, fever and hemorrhage. Physical examination, an emaciated man, skin slightly but generally cyanotic, consolidation of upper half of right lung, cavitation not extensive; Litten's sign absent on left side.

The pulse ranged from 108 to 125 degrees in the morning to 98 degrees in the evening; temperature, 102 degrees. Tubercle bacilli were present in large numbers, together with streptococci. In one week the patient's weight had diminished six pounds and the strep. colonies were largely increased; these facts, together with the excessive expectoration, and cough which distressed the patient greatly, led us to resort to the streptolytic course; 60cc were administered. The usual reaction supervened, after which expectoration entirely ceased. Temperature dropped to 98.6, and remained there until the patient died, two weeks later. During this afebrile period the patient slept only under opiates or hypnotics. This stage

of the case was especially distressing by reason of the severe brachial neuralgia. Dyspnoea was frequent, cyanosis was constant. After the lungs had been cleared of the catarrhal manifestations, the percussion note took on a more woody character. Autopsy was refused.

Case 4. Miss B. L., age 26, cook. Both apices dull, signs of activity behind the right clavicle. Severe cough, expectoration, night sweats, subnormal morning temperature. After transferring the patient to the hospital open air and bed rest brought about an improvement. Sputum examination showed numbers of t.b., but few or no bacteria. After admission to the hospital she never had a pyrexia, but a.m. temperature gradually became lower—streptococci and other bacteria became more numerous. From March 20th to April 29th 120cc of serum were, from time to time, exhibited. Reaction was never at any time severe. After the latter date cough and expectoration still continued, but patient was able to be about. Her appetite is good, she sleeps well and is, her condition taken as a whole, much better than before.

Case 5. Miss A. K., age 18, had an attack of supposed grippe about January 1, 1905. The case pursued a febrile course until February 13th, when t.b. were discovered and the case referred to me. The right lung was involved down to the third interspace, examination showing consolidation and cavitation; left lung normal. Morning temperature 97, evening 100; chills, sweats, malaise, cough and expectoration. Few strep. were found. Patient gained steadily after being put to bed with windows open. The appetite improved, cough and expectoration lessened and the menstrual flow, which had been nearly suppressed, was re-established. However, on the date mentioned, fever recurred and a grippe-like attack developed; the increase in the cough and expectoration led to the belief that we were dealing with an acute mixed infection. The microscope revealed numerous bacteria and the streptolytic treatment was administered. The usual re-active phenomena were observed;

after their disappearance the temperature again became normal, as did the pulse. Expectoration there was none until ten days later, when a profuse t.b. bearing sputum appeared; this may have been due to the breaking down of a small tubercular node, for the discharge rapidly became scanty. The case is now in a satisfactory condition as regards sleep, appetite and cough. May 10, 1905, normal temperature; pulse, 80-90; no cough at night and but little during the day; weight increased two pounds.

Case 6. G. C., male, collector. First examined March 23, 1905. Extensive loss of tissue in upper part of right lung; consolidation down to fourth rib; cavity in left lung down to lower border of clavicle; no appetite, constant cough, chills, sweats. A. M., temperature 101, pulse 125 P. M., temperature 103 5-10, diazo positive, gingival redness present. Patient was put to bed in hospital and streptolytic serum given; he received 80cc up to April 6th. By April 10th the morning temperature had dropped to 98 6-10, P. M. temperature 100, pulse 86. Appetite became hearty, sleep undisturbed by cough, and sputum limited in amount. April 31, 1905, diazo absent. May 2, 1905, appetite excellent, fever disappearing in afternoon, two and one-half pounds increase in weight.

Case 7. Miss L. B., age 20, boxmaker, weight 99 pounds. Came to me April 26. No history of tuberculosis except in factory, one employe having had consumption. Both apices dull, left apex down to inter border of clavicle. Pain on pressure over left apex, high pitched expiratory murmur over left apex. Posteriorly, right side down to fourth dorsal vertebra, bronchophony over right lung, crep. râles opposite lower angle of scapula. Litten's sign absent on left side. No diazo. Pulse 100, temperature 102 5-10; chills, fever and night sweats, no appetite, strep. tetragenus and t.b. Patient put to bed with windows open. During first twenty-four hours she expectorated 110 times. Streptolytic serum was given, 10cc daily for six days. Appetite improved immediately until serum reaction occurred. Cough di-

minished and expectorations became reduced to nine times in twenty-four hours. Present average is 12. Patient's fever is now moderate, pulse 120 respiration 16. She is not yet up, but conditions point to improvement.

As I have already remarked, these are not cured cases. They are still under observation and will not be out of danger for many months, some will never get well. However, their chances are far better than when the toxins of the tetragenus and streptococcus were literally consuming them. I believe that in the anti-streptococcal serum we have found an ally of material value in our fight against secondary infection, particularly when the approved hygienic measures have fallen short of our expectations.

In closing, I would urge the importance of early recognition of infections, other than tubercular, in the treatment of pulmonary consumption. Once the by-infections are cleared up, the tubercular process becomes more amenable to treatment—the patient gains strength wherewith to struggle—mayhap successfully, and a cure is not an impossibility.

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Discussion.

Dr. J. J. Tremblay, Moline: We all get men, women and children with tuberculosis, and I believe the colony should be right at home. In order to cure tuberculosis we must keep our patients from coming in contact with the germ, and to do that we will have to look not only at our materia medica, but we must destroy the germ that produces tuberculosis, and the only way to do it is to get a clean city, and get railroads to give us a clean station.

Some of you may think you never will have tuberculosis, but when you leave for home, and sleep in one of those sleepers on the train, you are quite liable to contract the disease. I have fought and tried to get physicians to get new railroad stations and better traveling conditions, but without avail.

One climate is just as good as another. We have not so many tuberculosis patients in the country as in the city. Let us have clean homes, and clean cities, and then we can cure tuberculosis at home.

Dr. J. W. Pettit, Ottawa: I want to commend all that has been said by the essayist. It is particularly gratifying to me that this question of tuberculosis needs only to be presented to insure a large and respectful hearing by physicians and laymen anywhere and everywhere. Any time prior to the past year it would not have been possible to get more than a corporals guard in any medical society to listen to papers such as have just been presented. It was because of this apathy and indifference to the subject that no progress could be made along this line. I am very glad this society has taken up this work. I am pleased to note the wonderful progress which has been made during the past year in arousing public and professional sentiment in this state.

This is a very large problem. It is easy to outline what ought to be done, but it is more difficult to do it. There are a few things which just at the present time must engage our attention and be placed before the people in their proper light; first, we must teach the people that climate cuts but little figure, although I do not believe we ought to go so far as to say that climatic conditions are to be ignored in all cases. As a rule the tuberculosis patient may be cured in the climate where we find him. This is particularly true of incipient cases. There are patients, however, who will do better in one place than another, but we cannot tell in advance to what particular locality to send him. The rule is in the several leading institutions of the United States, that where a patient is not doing well they send him some where else where the climate is in strong contrast. A few days ago I saw a patient at Dr. Trudeau's sanatorium who was doing remarkably well. He had spent nearly a year in the Southwest under the most favorable surroundings, but made no improvement until he was sent to Saranac Lake. Another patient will make little or no progress in the Adirondacks and do well elsewhere. Therefore, it will be seen that while climate is a factor in exceptional cases, as a rule it is practically unimportant.

The greatest need just now, if the moderate treatment of tuberculosis is to accomplish what it should, is the necessity for an early diagnosis. We must discuss this feature of the subject in season and out of season. Ring in all the changes possible to engage the attention of the profession and people. It is not sufficient that we simply lengthen the lives of our patients, which is all that is accomplished in many of our advanced cases. From an economic standpoint this is of little value. We do not add to the usefulness of that life unless we cure the disease. This can only be assured by an early diagnosis. Advanced cases are not only difficult to cure, but require so much patience and perseverance on the part of physician and patient that they are apt to lose out in the fight; hence the necessity for an early diagnosis. I frequently have applications for the admission of patients to the Ottawa Tent Colony, where it is stated that they have tried everything else and failed, and as a last resort wish to test the efficacy of the open air

and dietetic treatment. To be of any value the modern treatment of tuberculosis must be made first and not the last resort.

I wish to call your attention to a little journal called the *Outdoor Life*, published under the direction of Dr. Trudeau. It is a very practical little journal and should be read by the doctor and given to his patients. It ought to be in the hands of every one under treatment for tuberculosis and used as a guide after his discharge. The fact that it is under the fostering care of Dr. Trudeau is sufficient guarantee of its character.

Dr. E. J. Brown, Decatur: The State owes Dr. Pettit a great deal for being a pioneer in this work. He has given fifty per cent of his time and ninety per cent of his energies, and money as well, treating these cases of tuberculosis in his Tent Colony. I think we can all urge him to introduce this treatment on a broader scale and put it on a basis from which he can derive an income.

A year and a half ago I had a patient, a working girl, making three dollars a week. She was in the incipient stage of the disease. I told her father that if he would advance her funeral expenses we could save her life. He could not see it in that light, and the girl died a few weeks ago. The loss in wages, medical treatment and funeral expenses amounted to \$500, when it would have cost only about \$150 in the early stage to save her life.

I have five or six patients now sleeping in second story out-door bedrooms with good results. The great trouble in private practice is the education of the patient, and the family. The girl I mentioned I educated to a certain extent. I spent at least an hour a week talking to her. I gave her all the literature I could find, I have magazine articles which I distribute among my patients, and I am going to advise "The Journal of Out-Door Life" to my patients. Educating the families is the most difficult task we have to do. The girl would go out of doors in the summer and improve, gaining ten or fifteen pounds, but when winter came on sat around the stove, and her mother stuffed up all the cracks to save coal bills, and the girl became rapidly worse and died. It is almost impossible to educate the family in this work. In fact, you cannot educate them, except in sanatoria where you have the patient under perfect control.

Dr. S. M. McClannahan,.....: I simply want to ask Dr. Gray whether by the title of his paper he means to make a distinction between tuberculosis and mixed infection in tuberculosis. To my mind, every case of tuberculosis is one of mixed infection. I have never examined tuberculosis sputum without finding quite a variety of bacteria other than the tubercle bacillus. If Dr. Gray does make a distinction between mixed and pure infections, I would like to know what that distinction is.

As to the rest treatment, putting the affected lung at rest; I have never done any work along that line, but Dr. Normal Bridge, of Los Angeles, has treated many cases in that way, and his results seem to be favora-

ble. The treatment looks reasonable, and, in closing, I wish the essayists would tell us whether they have had any experience with it, or what they think of it.

Dr. Ethan A. Gray (closing the discussion on his part): There is a distinction between pure tuberculosis and mixed infection. The early cases, in the so-called pretubercular stages are, as a rule, free from virulent or foreign bacteria. I have examined numbers of specimens of sputum which contained occasional tubercle bacilli and found no other organism or if present, they were so few and far between as to be negligible.

There is a difference in the treatment of a case after the bacteria have appeared. My patients improve markedly in the early stage. Their appetite improves and they gain in weight. Tuberculosis is a very slow disease per se; it is only when the bacilli are thrown into the circulation, infecting organs distant from the local nidus, that we have trouble. Of course, there will be a toxemia from the tubercle bacillus, but nothing in comparison with the toxemia resulting from the streptococci or staphylococci. When the latter appear we have the old-fashioned fever, and that is almost always fever of mixed infection.

In miliary tuberculosis we have an entirely different condition. Those cases run their course rapidly, but, I believe, that even in them we can find many other bacteria, because we have a mixed infection even there.

As to the treatment by lung rest, I know very little about it. The increased respiratory effort appears to be the work of Nature to clear out the toxins. After they have been done away with, and the respirations cut down from 38 to 18, we get all the rest we could ask for. Of course, much depends on educating the people, and how much authority you can exercise over them. Some patients will do exactly what you tell them to do, and the results in those cases are good. Others will do as they please, and the results are bad.

I believe in the sanatorium treatment. I think it is the ideal treatment, because measures can be carried out there that cannot be carried out in the home. But, no matter where he may be, every patient must be educated, watched and guarded if you expect to get results from any treatment of tuberculosis.

Dr. Wheaton (closing the discussion on his part): With regards to the antistreptococci serum in tuberculosis, especially late tuberculosis, I must confess that I am rather skeptical. I believe in the efficacy of the serum in carefully selected cases. The serum should not be administered unless streptococci have been demonstrated to be present, and the patient is suffering from that intense chill, more severe than the malaria chill, and more profound in its shock.

The campaign against tuberculosis is one of education, and must be worked out along sanitary lines. I believe in being frank with the tuberculosis patient. Knowing their condition,

and appreciating what treatment means to them, they will, after a time, co-operate intelligently with you, and endeavor to get well.

Railway trains, cars, etc., should be disinfectd regularly. That is an important matter, and I hope that this society will, at some future time, appoint a committee to go to Springfield and secure legislation to run special Pullman tourists sleepers in which these patients can be transported, and at various points along the route they can be made to equip stations so that they can carry these patients when they are compelled to change cars.

Dr. Homer H. Thomas (closing the discussion): It is very gratifying to have endorsed the essential principles in the treatment and prevention of tuberculosis. Evidently we are a unit today in believing that these principles are combined in those pure air, pure food, pure water, individual, indicated exercise, and climatic environment. That is a great step forward.

I wish, however, to dissent from one of the positions taken by a previous speaker with reference to the control of tuberculosis. I believe in absolute professional domination in the care and treatment of tuberculosis cases. Our present conception of the successful management of this disease is not an expensive one. It calls to the aid of the sufferer natural agencies which are free and therefore inexpensive. I think we lose professional prestige with our cases unless we absolutely have our own way in their management. I think that any compromise or compliance in the care of these cases is not only detrimental professionally to us, but unfortunate for the patient. Personally, I would much rather give up the care of any case of tuberculosis that would not do as I wanted it to do rather than to maintain an equivocal relation of compromise.

When the successful treatment essentially involves pure air, pure water and pure food, there should be no difficulty in securing these conditions for the poorest patient, and unless we do these, we are not doing our duty professionally in the care of the tubercular patient.

ENTRO-COLITIS.*

BY DR. H. J. NICHOLS. M. D., QUINCY.

In presenting this subject before you for your consideration I wish to state that I have no new light to throw upon it, nor neither have I made any new discoveries. But I offer it because it is one of the most common and fatal of infantile diseases and that it is most prevalent during the hot summer months. My remarks will be brief in order that the more experienced may speak.

Entro-colitis is a catarrhal inflammation

of the lower portion of the small intestine—the ileum, and the upper portion of the large intestine with a great tendency to ulceration of the intestinal glands if the catarrh becomes chronic. It is characterized by moderate fever, nausea, vomiting, diarrhoea, swollen abdomen, pain and emaciation.

The most direct and common cause is improper feeding. But often it is due to high summer temperature, impure air and uncleanliness. In order that we may clearly get the subject before our minds, I shall briefly give the anatomy and physiology of this portion of the intestinal tract. There are four coats. Beginning from without inward they are as follows: Serous, muscular, submucous and mucous. The serous has the same structure as the peritoneum. The muscular coat is non-striped in character. The outer fibers are longitudinal and the inner fibers are circular. The submucous coat consists of connective tissue blood vessels, lymphatics and nerves. The mucous coat is composed of little folds called *vavulæ conniventes*. They increase the areal surface of this portion of the intestinal tract. There are also many little glove-fingered like projections, called villi, entering into the composition of this coat. They extend from the lower portion of the duodenum to the lower portion of the ileum and are peculiar to this section of the intestinal tract. Here the greatest activity in absorption goes on. We can readily see how any interference with this function will likely produce the disease under discussion.

The villi promote absorption through its network of capillary blood vessels and lacteals.

Entro-colitis may be acute or chronic.

In the acute variety there is hyperæmia, swelling, œdema and softness of the mucous membrane of the lower portion of the small and the upper portion of the large intestines with *hyperplasia* of the intestinal follicles. The patches of Peyer are also enlarged and tumefied and projected above the surrounding mucous membrane the orifices appearing as dark points.

In the chronic variety the thickening and infiltration extend to the submucous or mus-

cular coats. The tissues become indurated and oftentimes abnormally rigid. Oval and circular ulcers occur, having for their base the submucous or muscular coats. They are grayish white in color.

The symptoms may be acute or chronic. The acute variety may develop slowly with restlessness and fretfulness or suddenly with feverishness, loss of appetite and thirst, nausea, moderate vomiting and abnormal pain or diarrhoea may be the first indication on the part of the child.

The stools have the following characteristic appearance: They are semi-fluid, heterogeneous, grayish, acid, mixed with yellowish fragments of ordinary faeces and undigested casein, "chopped spinach stools." The abdomen is enlarged and tender. In marked cases the child is greatly emaciated and prostrated in a very few days.

The chronic variety usually follows the acute. The symptoms are not as severe, but decidedly persistent. The strength fails, the temper is very irritable, the complexion grows very dark, sallow and unhealthy and the skin is dry and harsh. The abdomen is enlarged and tender. The stools number from six to twelve in twenty-four hours and are mixed with imperfect digestion, mucous, serum, pus and oftentimes blood. The most common or frequent complication is ulcerated stomatitis.

Duration. The acute form may last from ten days to two weeks. The chronic may exist from one to three months.

Diagnosis. The acute variety can hardly be mistaken for anything else if the characteristic stools or other abdominal symptoms are given.

The chronic variety may be mistaken for the diarrhoea of tuberculosis. In order to prevent making this mistake the chest will have to be examined.

Prognosis. It is quite unfavorable to the weak in midsummer or when surrounded by bad hygienic conditions, but is quite favorable to strong and vigorous children who have passed through their first dentation.

Treatment. In the acute variety dieting should be strictly enforced. Give such food

as milk with lime water or predigested. Of all articles of diet, pure milk is the best. Rest and pure air are very important.

A half grain of calomel with two or three grains of bicarbonate of soda may be administered every two hours until two or three doses are taken, especially when the exciting cause is due to improper feeding, then this may be followed by giving such drugs as bismuth subnitrate and salol. Local applications to the abdomen, such as the spice poultice or turpentine stupes are gratifying. "Few conditions will tax the skill and patience of the physician as will the chronic variety," so says Dr. Hughes.

Of course, to successfully treat this variety, dieting is also of prime importance. The child should if possible be carried to the mountains or to the seashore. Bathing is very beneficial.

The following drugs may be of service: Subnitrate of bismuth, silver nitrate, pepsin and aromatic sulphuric acid.

THE SECRET NOSTRUM EVIL.*

BY FRANK BILLINGS, M. D., CHICAGO.

I shall make no apology for bringing this subject before this section. Its importance to the profession of medicine and to the public justifies an exposition of the evil now. In no other country has this menace to the welfare of the people and to the best interests of scientific medicine developed as it has with us.

Probably the reason is that other countries, with one or two exceptions, protect the people against frauds in foods, medicines, etc.

Some day it is to be hoped that the Congress of the United States will enact a national pure food law which shall include the regulation of the copyrighted and exploitation of proprietary and other medicines.

Just here it will be well to say that the term "proprietary medicine" does not necessarily stamp a preparation or remedy as

*Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-sixth Annual Session, July, 1905.

a nostrum. Webster says that a nostrum is "a medicine, the ingredients of which are kept secret for the purpose of restricting the profits of sale to the inventor or proprietor; a quack medicine." Some proprietary medicines are patented, or better, the process of manufacturing an article is patented. This patent protects the discoverer, or owner, in the manufacture of the medicine or drug for a period of seventeen years. These preparations are ethical, in that they are not secret, for any one for a small fee may obtain from the patent office of the government a copy of the description of the process of manufacture and the actual chemical composition of any such patented drug or remedy. The chief harm which has come to us in America from the protection by patent of the process of making a chemical or drug has been the resulting high price of the product. Many of the synthetic chemical drugs, like antipyrin, phenacetin, etc., cost ten times their worth as compared with the price of the same drugs in Germany and in other countries. As stated, however, such really patented preparations are not secret; the composition is known. Some of them are of value therapeutically. Many of them are valueless. Some of them are harmful. Most of them we could easily get on without and fare better with the older, more simple remedies. Too many "made in Germany" specifics are shoved under our noses.

Now, as to the other proprietary medicines. All the so-called "patent medicines" put on the market for the public, and many of the preparations exploited to physicians and distributed by them to the public, are not patented, but are protected by a copyright or trade mark. Technically there is no difference between the secret proprietary medicines manufactured for physicians' use and the "patent medicines" exploited to the public. Both are protected by copyright or trade mark name. Both are protected for an indefinite time. They are mixtures, as a rule, of several ingredients.

The relation of the physician to these preparations, however, is very different. Those "patent medicines" which are advertised to the public are not considered ethical and phy-

sicians abhor them and rightly condemn their use because they are often dangerous and always irrational as remedies. On the other hand, the manufacturers of those copyrighted proprietary medicines which are exploited to physicians by extravagant claims of specific therapeutic action, use the doctor as the middle man to distribute the cure-alls to the public.

Medicines so prepared that the busy physician could easily dispense them found a certain class of doctors eager to use them. The indications for use appeared on the label or in the accompanying literature. Tonics, blood and tissue builders, emenagogues, pain relievers, febrifuges, laxatives, calculi solvers, soporifics, bile promoters, heart tonics, cures for Bright's disease, etc., have appeared in countless number and some remedies offered are confidently presented as cures for not one but half a dozen diseases or symptoms complex. Indeed, the claims of many of the promoters of this class of remedies do not differ in extravagance from the cure-all patent medicines offered directly to the public.

It has been easy to obtain testimonials of the alleged value of many of these remedies. Many even of the "faculty" have extolled them. Why, therefore, should not the less experienced physician use these "elegant," palatable, all-ready-to-use, with label-specifying-dose, disease-indicating remedies? Prominent physicians and the "faculty" had testimonials in the circular sent with the samples indicating the virtues; why, therefore, use the simple proved remedies of the pharmacopeia, and especially as the latter would often necessitate the trouble of writing a real prescription.

To the rational physician most of the mixtures, even with the formulæ, are objectionable. Disease is never quite the same in different individuals, nor does the picture remain the same from day to day. The treatment must be modified to meet the varying problem of the morbid process. Rational therapy calls for simple prescriptions; but if there be an objection to mixtures with fixed and known formulæ, what must one

say of mixtures of secret or semi-secret composition?

As Dr. Horatio C. Wood, Jr.,¹ says:

A much more elusive and therefore dangerous evil lurks in the class of mixtures which attempt to cloak their secrecy with a deceptive show of frankness. I think you will grant that the physician is rarely justified in the use of remedies concerning which he has no knowledge, and I maintain that the publication by a drug firm, of whose integrity the physician is absolutely ignorant, of a professed list of ingredients of some mixture is not sufficient knowledge to pardon or to warrant the uses of that remedy. In the first place, if the published formula be correct, it is not enough to know simply the composition of a mixture, the exact quantities must also be known; there is a vast difference between the effects of 1 grain and of 100 grains of opium. Moreover, there is no means of knowing that the formula is a true one, for many of these corporations do not hesitate to pervert the truth.

Many of the promoters of these preparations claim, as chemists or as pharmacists, to be the discoverers of the wonderful remedies and the alleged unusual knowledge of chemistry or of skill in pharmacy has enabled the discoverer to develop in a mixture heretofore unknown, therapeutic qualities. Truth to tell, however, it is known that the proprietors are not always the manufacturers of the preparations they exploit and distribute. Many of the proprietary preparations are made by the large manufacturing pharmacists for the owners. Pharmaceutic skill is doubtless used in these instances, but it is the kind of skill which is for sale and is not personal.

I am informed that it is not unusual for one manufacturer of proprietary mixtures to have several so-called "companies," through which he can more easily exploit and distribute his products.

There is said to be a direct relation between the Dad Chemical Co., the Od Chemical Co., the Sultan Drug Co., the Rio Chemical Co. and the Peacock Chemical Co. or at least that they are linked together through one individual, and that Battle & Co. and the Lambert Pharmacal Co. are related to the above list. It is said, too, that the Vass Chemical Co., the Lotos Chemical Co. and the Valley

Chemical Co. are one combination. Doubtless other combinations exist.

Curiosity recently prompted me to look through a number of medical journals and I can not resist the temptation to quote some of the preparations advertised in them: Aletris Cordial, Celerina, Neurilla, Respiton, San Metto, Cactina Pellets, Seng, Chionia, Thialion, Zarcot, Ethol, Hagee's Cordial of Cod Liver Oil Compound, Mandragorine Tablets, Rheumagon, Ponca Compound, Ammophenin, Chloro-Bromon, Anasarcin, Bronchiline, Zematol, Zymoticine, Sulphogen, Labordine, Satyria, Manola, Cacodol, Eusoma, Leprosen, Sulpho-Napthol, Pasavena, Neurosine, Germiletum, Bonn's Passiflora Tablets, Dioliburnia, Tongaline, Lithiated Hydrangea, Melachol, Gonoseptone, Solsul, Saliodin and so on *ad infinitum*. These are only a few samples of what the physicians of the United States are asked to prescribe. But there are hundreds of secret preparations that are not advertised in medical journals whose literature and samples come to us through the mails, etc. In the majority of cases, we do not know their contents, and in many instances an analysis shows that they are simply mixtures. Often a prescription written by a physician for a particular case is purloined, put up under a trade-mark and exploited as a cure-all.

As an illustration see the official announcement of the Council on Pharmacy and Chemistry regarding certain nostrums that have been exploited as synthetic chemical preparations guaranteed to cure everything. I have no doubt that the majority of the physicians who have been prescribing phenalgin, antikamnia, sal-codeia (Bell.) and amonol were shocked when they found out that, according to analyses, they had been giving a simple mixture of acetanilid, with bicarbonate or salicylate of sodium or carbonate of ammonium, with a little caffeine in some instances. What physician will be foolish enough to use these preparations when he can get the same of his druggist for at most one-tenth the cost, but especially what physician with a particle of medical knowledge would think of giving acetanilid if

1. "Proprietary Therapeutics," The Journal A. M. A., June 10, 1905, p. 1836.

he knew it, in the majority of the conditions in which, according to the advertisers, these nostrums are indicated?

What physician would prescribe Gray's glycerin tonic, if he knew that its chief ingredients are gentian, dandelion, glycerin and sherry wine?² Could he not write a prescription as good and feel that he was his own judge of what constitutes a tonic?

Let me quote from *THE JOURNAL A. M. A.*³ This, I am told, refers to an article advertised as a cod liver oil preparation—one of the tasteless kind, that has been investigated by a sub-committee of the Council:

We have recently had occasion to open a package of a well-known "Tasteless Cod Liver Oil" preparation. The circular which was wrapped about the bottle was replete with interesting information, especially for the patient, who obtains the remedy in the original package, as prescribed by his physician. He finds in it a list of diseases in which the preparation does wonders—they range from the dread consumption to cystitis and hemorrhage of the kidney. Most interesting to us, however, is the statement that this compound "contains all the necessary elements of nutrition." It is too bad to disturb the beautiful vision by the report of the chemist. This shows that the product is quite free from oil or proteids; the only nutrient ingredients are alcohol, sugar and perhaps glycerin. But the claims of the manufacturers are probably correct, for it contains carbon, hydrogen, oxygen and probably a trace of nitrogen—so does gunpowder.

Perhaps it will now be the turn of strychnin to be advertised as the ideal food. It seems superfluous to point out the moral of this tale.

It is not necessary to enter into a discussion as to whether we should ever prescribe secret proprietary medicines, for in the minds of intelligent men, even with only a smattering of medical knowledge, there can be but one answer. A physician who has a true appreciation of his responsibilities, who has even ordinary knowledge of the action of drugs, and the danger from their unintell-

igent use, would not think of prescribing for the sick, who have been placed under his care, a preparation about which he knows nothing except what the manufacturer, about whom he knows less, has told him. While there is no excuse for prescribing these medicines, too many unthinking physicians are influenced to do so by the claptrap designated "literature," which the exploiters publish about their preparations.

There is not a secret proprietary preparation that has any more value, from a pharmaceutical or therapeutic standpoint, than has the ordinary prescription of the average general practitioner. Stop advertising them and they would be forgotten, just as "patent medicines" pass away if they are not advertised. A hark back ten or fifteen years will call to mind many concoctions which physicians were asked to prescribe, and which according to the advertisements, performed wonders, but now are heard of no more. Their advertising literature stopped coming and the nostrum-prescribing doctor ceased to use them.

What is the cause of the nostrum evil? There are several.

1. Pharmacology and therapeutics are neglected relatively by many of our medical schools. Anatomy, physiology, pathology, diagnosis, etc., are emphasized and too often the usefulness and limitations of drugs are neglected. Too frequently drug nihilism is taught. If the student were fully taught the physiologic action of drugs, the art of prescribing, preferably single remedies or in simple combination, using if he desires the pharmacopeial preparations prepared by reliable manufacturing pharmacists, and at the same time if he were taught when not to rely on drugs, but frankly to prescribe for his patient a course of hygienic measures which alone would accomplish all that would be required, he would not be the willing dupe of the nostrum vendor, as he now is:

2. "Each half ounce is stated to contain dilute phosphoric acid, 12 minims; gentian root, 10 grains; extract of taraxacum, 15 grains; glycerin, 80 minims; sherry wine, 80 minims; carminatives, q. s."—"Thesaurus of Proprietary Remedies," p. 148.

3. June 17, 1905, p. 1943.

2. The reputable manufacturing pharmacists deserve great credit for the improvement they have made in pharmaceutical products. They have afforded us official preparations in the form of pills, tablets, syrups,

tinctures, extracts etc., which are elegant in appearance, often palatable and usually potent.

For this advance in pharmacy, a distinct credit to our country, we owe them our thanks.

Unfortunately, many of them have not stopped at this point, but have manufactured their own special mixtures which are just as objectionable as the products of the special manufacturers. They, too, have been active with their agents in visiting physicians and in distributing "literature." This encourages drug-giving in specific mixtures for special symptoms, and is wrong. With one hand they do good work, with the other much evil is done.

3. The nostrum makers at first copied the methods of reliable manufacturing chemists, in exploiting their products, but they have gone a step further and have reached a point where one may say that they have subsidized the medical press. I know I am on dangerous ground when I make this statement, but right here is the chief cause—and the remedy. How many of our so-called medical journals are subsidized by medicine manufacturers I do not know, but all physicians know as well as I that there are many, and I do not refer to the so-called house organs. I unhesitatingly affirm that one-half of the medical journals of the country would be out of existence if it were not for nostrum advertisements. Under the circumstances, therefore, can we expect these journals to say anything? Need we be surprised that scarcely a journal published the official report regarding the acetanilid mixtures, when the preparations hit were the best paying advertisements in the country?

What is the remedy? Publicity. The enlightenment of the profession. The truth regarding not only what the preparations contain, but who makes them. Certainly no honest manufacturer will object to this last proposition, and no honest physician will put up with less than the former.

The Council on Pharmacy and Chemistry has been created to investigate the non-official preparations, to find out the truth about

them, and to publish its findings. It is not necessary to repeat here the results of the work already done by this body. All physicians have read, or may read all about it. In my opinion there has been no movement undertaken by the American Medical Association that will be so far reaching as this one to rid us of the blight of the nostrum evil. For the first time, we see the possibility of the elimination of a part, at least, of this curse to American medicine. It is the first practical solution offered of a most difficult problem.

But—and I want to emphasize what I am about to say—the movement will have the most determined opposition that money can bring. Millions are being made annually by the nostrum manufacturers, and they will not sit down idly and see this wealth-producing business done away with if they can prevent it. It won't be an open fight, for their business will not stand publicity. They will have with them those so-called medical journals which are published solely in their interests.

This movement will have the sympathy of every thinking physician of the country, but sympathy does not win battles. In this fight those who are representing us should have all the support we can give. In society meetings especially we should aid in the propaganda by helping to enlighten and to interest those of our profession who have given the matter no thought. We should support those journals that represent us, and not tolerate in our offices those that we know to be subsidized and to represent their advertisers rather than their readers.

THE INJECTION OF AIR INTO THE CIRCULATORY SYSTEM OF ANIMALS.*

BY EZRA READ LARNED, M. D., CHICAGO.

Unless I am much mistaken, most practitioners of medicine believe that the accidental injection of even a small bubble of air will be followed by very serious conse-

*R ad at the meeting of the Chicago, Medical Society October 25, 1905.

quences. The technique of many operations is modified because of this superstition, and the simple operation of administering medicine subcutaneously by means of an hypodermic syringe is looked upon as a serious matter, and students and nurses are cautioned to see that all air is excluded from the needle before it is allowed to penetrate the skin of the patient to obviate the great danger of the injection of air into a vein accidentally. That medical practitioners believe in the verity of this danger is not to be wondered at when standard medical books are consulted. Most of the older books teach this idea. The beneficent results of antidiphtheritic and certain other sera have been modified, owing to a few cases of sudden death soon after such administration, being charged to air embolism.

Rose and Carliss *Manual of Surgery*, sixth revised edition, 1905, on page 289, says the entrance of air into veins, though rarely met with, is fraught with the utmost danger to the patient. The air becomes churned up in the cavities of the right side of the heart, forming a spumous frothy mixture amongst the columnæ carneæ, which the heart can only with difficulty eject; thus the circulation is brought to a standstill in spite of forcible contractions and the patient dies from anemia of the lungs and brain.

On page 76, referring to injuries of the intra-cranial blood vessels, the statement is made that the entrance of air has led to a fatal issue in a few cases.

In the *International Textbook of Surgery*, Vol I, edition 1903, page 898, in the chapter referring to injuries of blood vessels, are several paragraphs with regard to air embolism, and the statement is made that the entrance of air into the circulation, aside from where it enters the uterine sinuses, occurs exclusively after injuries to the veins, especially those of the base of the neck. It states that the air rushes in with a peculiar hissing sound, and if in sufficient quantities, death is almost instantaneous. Single small bubbles of air are not necessarily fatal. Death is due to the air collecting in the right side of the heart and

preventing the contraction of the right ventricle, which finally stops the heart in diastole.

In Von Esmarch's *Surgical Technique*, edition 1903, p. 649, referring to operations for cervical tumors, occurs the statement that injuries to veins is almost the principal danger, partly on account of violent hemorrhage, partly on account of the possibility of air entering the veins, accidents that may cause instant death, air embolism and cardiac insufficiency.

On the other hand, Von Bergmann's *System of Practical Surgery*, edition of 1904, Vol. II, of the English translation, on page 55, chapter on injuries of veins in the neck, says wounds in the neck are life endangering accidents, owing to hemorrhage and the possibility of air entering the veins. On this and the succeeding pages is a description of the symptoms accompanying the entrance of air into veins, as follows: In the majority of cases the entrance of air is accompanied by an intermittent hissing or gurgling sound. At the same time, or a few minutes afterwards, symptoms referable to the heart and the breathing appear. The patient turns pale, has an anxious expression or screams, the breathing becomes more difficult, the pulse weak, frequent and irregular, pupils are distended and do not react, consciousness is lost, convulsions and death closing the scene. Statistics collected in 1864, of sixty-four cases, show that twenty-four died instantly or within a short time, that twenty-seven recovered after showing alarming symptoms and in nine no influence on the general condition was observed. This authority admits that this result is not the rule. The symptoms subsided in a portion of the cases and complete recovery may take place even if the symptoms have been severe. Von Bergmann further states that this accident, formerly so dreaded, seems to have become less frequent in late years, and gives as a reason the improvement in technique and improvement in operative conditions, such as complete anesthesia. Reference is made to animal experiments, but with the

qualifying statement that conclusions arrived at were not uniform.

In the American Textbook of Physiology, page 389, in the chapter on circulation, reference is made to the danger of entrance of air into a wounded vein, accidents commonly followed by immediate death for reasons not here to be discussed. Further on, it states that when air is thrown into a vein, the blood and air enter the heart together, possibly with deleterious effect.

In the American Textbook of Surgery, edition 1899, page 1072, is a reference to air embolism in which the statement is made that it is a danger to be avoided and that death is the not infrequent result. It speaks of numbers of experiments having been made to determine the cause of death, and that the conclusion of the experimenters is that the air finds its way into the right side of the heart, and being elastic, the right ventricle cannot empty itself and the result is anemia of the brain, followed by syncope and death.

Malcolm Goodrich, American Journal of the Medical Sciences, states, in a paper discussing this subject, that entrance of air into the veins, even in small amounts, is to be dreaded, as it may result in death. He states that any teaching to the contrary is pernicious and not supported by facts.

Let us see whether they are or are not supported by facts.

Personally, I believe these conclusions are entirely unjustifiable and that air embolism is not necessarily fatal, or even attended with grave results and that teaching to the contrary is unwarranted and not based upon facts. In the manufacture of antidiphtheritic serum, it occasionally happens that a horse is paralyzed from the influence of the diphtheria toxin. In such cases it has been our custom to kill these horses with chloroform. Three horses so paralyzed were used as subjects for experimental air embolism.

Experiment No. 1. In this horse, 20 cc. of air were injected into the jugular vein; after five minutes, a second injection of 20 cc. without effect; after another five minutes,

40 cc. injected without effect. After another five minutes, or twenty minutes after the first injection, we injected 160 cc. into the jugular vein.

The only symptoms we could discover were mere labored breathing, which after a time passed away, leaving no effects whatever.

Experiment No. 2. Horse. 300 cc. of air were injected promptly into the jugular vein. After one minute there was quickened respiration with spasmodic contraction of the muscles. After four minutes, hiccoughs which lasted ten minutes. After fifteen minutes, uneasy but slower respirations with an occasional hiccough. Two hours later the horse had entirely recovered. Several hours after this, we injected 600 c. c. into the jugular vein of this horse. After one minute there was spasmodic respiration, the horse acted as if it were choking. There was profuse respiration. The temperature fell 0.4° . After ten minutes the symptoms had entirely disappeared, and the horse was as before. Fifteen minutes later, we injected 1200 cc. of air. The horse was quiet. Breathing almost stopped. Later the breathing had stopped for ten seconds, then continued normal for a few minutes. After waiting a half hour and no further symptoms at all, the animal was dispatched with chloroform.

Experiment No. 3. Horse. In this experiment we made the attempt to kill the horse by the injection of air into the veins in the following way. A 2000 cc. graduate was arranged in the form of a Spritz bottle, i. e., a large rubber stopper was placed in the mouth of the graduate with two glass tubes leading into the graduate through the stopper. To one of these tubes was attached an ordinary rubber bulb; to the other a piece of rubber tubing, armed at its distal end with a veterinary hypodermic needle. Between the needle and the glass tube was a screw clamp which prevented air from passing from the graduate through the needle until the desired moment. We first pumped as much air into the graduate as was possible by squeezing the bulb, calculating that

the pressure was something over twenty-five pounds to the square inch. This would mean that the graduate contained several times more air than it would under ordinary atmospheric pressure. The needle was then pushed into the jugular vein of the horse, the clamp released as quickly as possible, and the compressed air in the graduate allowed to rush into the vein.

Very soon the animal showed symptoms of dyspnoea, staggered, showed some hiccough, but after several minutes presented practically the same appearance as before the air was injected. We were surprised that this extraordinarily large volume of air, forced under pressure into the circulation, should not have killed the animal. In order to determine whether or not this was possible, the animal was finally dispatched by pumping air into the veins for a considerable length of time. The detailed notes of this experiment were unavoidably lost, so that we do not know exactly how long the air was pumped into the veins before the animal died, but it was certainly a very long time. It seems to me that this test demonstrates that a very large volume of air, in this instance it was several liters, may be injected into the jugular vein without producing death, but it is, of course, possible to produce death in a horse by deliberately injecting exceedingly large quantities of air. On the other hand, please consider that it frequently happens in the injecting and bleeding of horses used for the production of serums, that quantities of air enter the circulatory systems of these animals without producing any deleterious results whatever. This is such a common occurrence that we have come to look upon the question of air embolism, that has been so frequently claimed to have been produced by accidental injection of air into the circulatory system during operations on the veins, as being decidedly far fetched, to say the least.

Experiment No. 4. Dog, weighing about twenty pounds. The jugular vein was laid bare, and using a 20 cc. syringe we injected sixteen of these syringefuls, one after

the other, or a total of 320 cc. of air. After one minute, labored breathing set in. In fact, the symptoms were practically the same as in the horse, dyspnoea. Two minutes after the injections were stopped the animal recovered, and the normal breathing was re-established. Allowing the dog to rest for one hour, the injections were repeated as before with practically the same results.

Experiment No. 5. Rooster. A small bubble of air was injected into the veins. No apparent effect. Then 1 cc. was injected. The patient became somewhat dyspnoeic, acted as a chicken does that has been run rapidly for some distance, gasped for air a few times, then recovered entirely.

Experiment No. 6. A guinea-pig, standard weight. Small bubble of air injected into the jugular vein. After three minutes, 1 cc. was injected, quickened respiration being apparently the only effect. Animal recovered entirely. These experiments we repeated on other animals with identical results in every case, with one exception.

Experiment No. 7. A small rabbit, weighing two pounds, was taken, into whose jugular vein we injected 20 cc. of air as quickly as possible. Decided effect at once; quickened respiration, spasmodic contraction of the muscles. After two minutes, the respiration became less and less frequent, stopping three and three-fourths minutes after the commencement of the experiment in the death of the animal. Bear in mind that in this small rabbit we injected 20 cc. of air instantly, and that a corresponding amount for a forty-pound child would be 400 cc.

Conclusions: In conducting the seven experiments I referred to, one is strongly impressed by the similarity of the effects observed to those of dyspnoea. The air entered the heart and remained there as an air embolus, as some one called it, stopped the circulation, or it passed the heart and formed air emboli in the branches of the pulmonary artery, thus for the time being, shutting the blood off from that part of the lung supplied by that particular vessel and the animal became dyspnoeic. It is easy to see that if *enough* air is injected, the cir-

culatation in the lungs may be so nearly stopped as to cause death, but one or a few bubbles of air will merely temporarily close a few of the branches of the pulmonary artery. This would be absorbed by the blood in a very short time, especially as it is in contact with venous blood under arterial pressure. In ordinary hypodermic medication or the injection of sera, I believe the danger from air embolism is absolutely nothing. In our laboratory in the past ten years we have made literally thousands and thousands of such injections into rabbits, guinea-pigs, rats, mice, dogs, horses and other animals, and have yet to see any harm come from them. If we must have a name for the cause of sudden death following the injection of serum, why not acknowledge our ignorance in the matter and call it "shock."

Pirogoff, as well as Laborde and Muron, has slowly injected large quantities of air into the external jugular vein of animals with impunity, and death took place only when from 100 to 200 grammes of air were injected rapidly.

Uterhart came to the conclusion that large quantities of air, 300 grammes, could be injected without damage into veins situated some distance from the heart.

Chauveau was able to introduce large quantities of air into horses without particular effect. Binay and Couty found that up to 100 grammes of air could be injected into dogs at one time or in small quantities at intervals without fatal effect.

I think that the recitation of these experiments, reinforced by the reports of Senn and Hare, show that even a large air embolism is not nearly so dangerous as a small air embolus has been thought to be, and has been taught;—that the danger of air embolism is slight. Since massive injections in horses and dogs are not necessarily fatal, there is no reason for asserting that minute air emboli in man are deadly, although it is possible that large quantities of air, such as eight or nine hundred cubic centimeters, would produce disastrous effects, if it could find entrance to the jugular vein of a man.

Now, referring to Nicholas Senn's Ex-

perimental Surgery, and his remarks therein on air embolism—(The classical experiments of Senn are the most exhaustive, carefully conducted, scientific experiments of which we have any published account). The following brief abstracts are made from this work:

Experiment No. 1. Dog, weight sixty-five pounds. Injected 30 cc. of air into the left jugular vein. Churning sounds over cardiac region loud and distinct. Heart's action became very tumultuous and intermittent. Respirations superficial and labored. The animal was bled from the distal end of the jugular vein to the amount of four ounces, whereupon the heart's action became regular and the respirations diminished in frequency. The vein was divided completely and both ends tied with fine catgut ligatures, the wound being closed in the usual manner. For a number of days the dog appeared quite unwell, showed no disposition to eat and acted very stupidly, being inclined to sleep most of the time. Subsequently he recovered completely. In this case the intravascular pressure was promptly relieved by free bleeding, which enabled the heart to force the air through the pulmonary into the general circulation. The stupid condition of the animal was undoubtedly due to embolism of the cerebral veins, which disappeared after the disappearance of the air emboli by absorption.

Experiment No. 2. Dog, weighed thirty-five pounds. Before operation, respirations 40, pulse 140. Injected 20 cc. of air into the right jugular vein. Convulsions followed, which lasted for about two minutes. Respirations rapid and stertorous. Pulse 300. After five minutes the animal made repeated attempts to get up and walk, but invariably fell down on account of imperfect control of the movements, or paralysis of the posterior extremities. About an hour later, the animal was able to walk, but appeared very feeble. Pulse 124, respirations somewhat accelerated. Recovery was complete. In this case, the equilibrium of the circulation was soon restored, and the air in the right side of the heart forced through

the pulmonary into the general circulation in a very short time, as was evident from the presence of symptoms indicative of embolism of some of the veins in the cerebro-spinal centers.

Experiment No. 3. Dog, weight seventy-five pounds. Injected 60 cc. of air into the right jugular vein. Churning sounds loud and distinct. Heart's action labored. Respiration exceedingly rapid, later, stertorous. The animal recovered rapidly from the immediate effects of the air embolism and was soon as well as before the operation.

In these experiments you will note that all the animals recovered after large injections of air into the circulatory systems. In some of Senn's experiments the animals died, as for instance—

Experiment No. 4. Sheep, weighing one hundred and twenty pounds. Left jugular vein. The vessel was opened in its lower third, but no air entered. A rubber-tube was introduced for a distance of two inches, with a view to facilitating the spontaneous ingress of air, but this accident failed to occur. Air was injected at intervals of eight minutes, in quantities of 30 cc. each, until the enormous amount of 480 cc. had been introduced. After the first injection nothing was observed that indicated the presence of air in the veins or the heart. After the second dose, a slight splashing sound could be heard over the cardiac region, which became louder and more distinct as the amount of air in the right side of the heart increased. The first serious symptoms observed were a tumultuous action of the heart and difficulty in breathing, which became aggravated by every subsequent injection. Towards the end of the experiment, which lasted nearly two hours, the animal was attacked, at short intervals, by general convulsive movements. After the suspension of respiration, the heart's action became very slow and feeble, and at times irregular. The immediate cause of death was plainly due to asphyxia, as manifested by the great dyspnoea and the cyanotic hue of the visible mucous surfaces. On examination after death, a few air bubbles and only a small amount of dark blood was found in the left ventricle. The right

ventricle was arrested in diastole and contained a large quantity of very dark, almost black, spumous blood. Air bubbles were found in a number of distant arteries of small size.

Experiment No. 5. Adult, large cat. In this instance the canula was introduced and tied in the left jugular vein. The heart was exposed before the injection was made with a view of observing directly the effects produced by sudden inflation of the right cavities of the heart. Before the air was introduced, the heart contracted regularly—artificial respirations being made for the purpose of preventing death by asphyxia. As soon as the right side of the heart was dilated by the air, the left auricle and both ventricles ceased to contract, while the right auricle continued to pulsate. The pulsations were feeble and irregular. The coronary veins became filled with air bubbles, presenting the appearance of a rosary. On opening the superior vena cava, air and frothy blood escaped, the right side of the heart collapsed and all chambers of the heart commenced to contract regularly and with considerable force. The pulsations continued for fifteen to twenty minutes, becoming more feeble and irregular and intermittent towards the last. After death, air was found in both venæ cavæ and the iliac veins. The left ventricle was completely empty. In this case, owing to the small size of the heart and the large amount of air introduced, the contractions of the right ventricle were arrested in the diastole, but respiration continued. Death took place suddenly from overdistension of the heart.

Experiment No. 6. Medium sized cat. Injected 15 cc. of air into left jugular vein. Heart's action arrested at once. The respirations, which were irregular, ceased a few moments later. The chest was opened at once. The right side of the heart was found enormously dilated and almost motionless. Coronary veins filled with air. The right ventricle was punctured with the needle of an aspirator and its contents withdrawn, when the pulsations were re-established. The ventricle was again inflated through the needle of the aspirator. Five minutes after this injection

the pulsations numbered about 250 per minute. Five minutes later the left auricle ceased to contract, the movements of the right being irregular and about 80 to the minute. After the lapse of another five minutes the pulsations of the ventricle were only 17 a minute and a little later all movements ceased. This experiment demonstrates that the arrest of the heart's action was due to mechanical overdistension, as aspiration of the right ventricle was followed by regular and strong contractions of the cavities of the heart. The contractions were not the result of the mere mechanical irritation of the heart by puncture, as other and equally severe irritants had been previously applied without producing any effect.

Senn's conclusions are that his experiments tend to prove the following statements:

1. A small amount of air in the right side of the heart in a healthy animal gives rise only to temporary symptoms referable to the heart's action and the pulmonary circulation.

2. When air has been injected into the right side of the heart in such quantities as not to arrest the contractions of the heart itself, it is forced through the pulmonary capillaries into the left side of the heart by the contractions of the right ventricle.

3. The danger attending the insufflation of air into veins is proportionate to the amount of air introduced, as well as to the capacity of the right ventricle to resist intracardiac pressure.

4. When a fatal dose of air has been introduced into the circulation, death takes place almost instantaneously from arrest of the heart's action, or later from suffocation.

5. Spontaneous ingress of air into a wounded, healthy jugular vein never occurred in these experiments, and must be considered almost a physical impossibility, as the resilient walls of the wounded vein collapse readily when exposed to atmospheric pressure.

Hare, *Therapeutic Gazette*, 1889, page 606; *American Journal of the Medical Sciences*, October, 1902, deliberately injected air into the jugular veins of dogs for the purpose of seeing how large quantities could

be borne without producing death and demonstrated his conclusions from these injections to the medical students of Pennsylvania University, where he was then teaching; to several of his colleagues; and finally, to the Philadelphia Medical Society. On this occasion Hare injected 60 cc. of air into the jugular vein of a small dog weighing twelve pounds without the production of any symptoms whatever. Hare reports experiments on some seventy dogs, and asserts that even large quantities of air do little, if any, harm. Hare also states that he has injected a considerable amount of air, amounting to as much as two to three cubic centimeters, into the median basilic veins of two human beings without producing any symptoms whatever, while a third patient who received a similar dose, afterward had a decided rigor, but no other untoward symptoms.

Dr. Larned (in closing the discussion) said: I wish to thank Dr. Ochsner for his complimentary remarks; also the members of the Society for their close and marked attention during the reading of my paper. In one respect the remarks of Dr. Ochsner puzzle me somewhat. I have referred especially to one experiment on a dog, where we injected the equivalent of 400 c.c. of air to a forty pound child. This was injected suddenly under pressure. I think, as Dr. Ochsner does, that there is absolutely no danger from small amounts of air injected through the canula of a hypodermic needle or any other needle that is used for such purposes. The hypodermic needle used by veterinary surgeons is large as compared with the ordinary hypodermic syringes.

In the case Dr. Ochsner cites, I judge from his remarks that he attributes the cause of the sudden death of his patient to the fact that the ventricle was unable to empty itself of air, probably from the air being elastic. This, I understand, is the old idea; and there have been a number of experiments made which seem to disprove it. There are some things that are contradictory in this matter. For instance, in the case of Dr. Ochsner referred to, where the patient died from severing of the jugular vein during inspiration. He does not say how much air was introduced into the vein, but he thinks it was a large quantity. I have reported one experiment, which was selected from a number of them as typical, where 400 c.c. of air would have been given to a forty-pound animal without any effect whatever. I think that much more air was injected in this case than would ever be injected in the course of any operation. In our experiments it was injected suddenly, deliberately, and under pressure, without any effect.

THE EFFICIENCY OF SALICYLATE OF SODIUM IN INFLAMMATORY EYE DISEASE.

BY DR. H. GRADLE, CHICAGO.

All modern text books on the eye recommend salicylate of sodium more or less definitely in the treatment of different inflammations, especially scleritis and iritis. But as a rule they do not give any exact information as to what can be really accomplished by means of this agent. Although a few reports have been published in ophthalmic literature—for instance by Chisholm, Gifford, and the writer specifying the efficiency of salicylate, its great value does not seem to be recognized fully by ophthalmic surgeons and certainly not by the profession at large.

Salicylate of sodium exerts its influence only if given in large doses. An adult requires at least 8 to 10 grams (120 to 150 grains) per day or, Gifford puts it, 1 grain per pound of body weight in the twenty-four hours. Smaller doses are not merely less efficient, but often fail completely. These large quantities are of course disagreeable. They cause as a rule more or less ringing in the ears, often a feeling of confusion and sometimes a moderate prostration, but never any dangerous effects. In children I have seen slight delirium. Irritation of the stomach is quite uncommon when the drug is given in the form of coated tablets while solutions may prove nauseating. But all these annoyances cease soon on stopping its use. In most cases—with the exception of sympathetic inflammation a faithful trial of such large doses for two or three days will show enough influence over the disease to encourage the patient to continue its use, while if it does not show its benefit by this time it is generally useless to persist. When its annoyance proves too great it can be given intermittently with an interval of a day and a half after two or three days' steady administration.

Salicylate of sodium does not act specifically on any one eye-disease in the sense of

arresting it promptly and in every instance. Yet its effects are so pronounced in shortening the course of various inflammations that the writer considers it, when applicable, the most useful agent at our command for internal use in ophthalmology, with exception of specific treatment of syphilitic lesions. Its influence is least pronounced in diseases with a fairly typical self-limited course, but often striking in lesions of indefinite duration. My personal experience with salicylate of sodium extending over many years has taught me its utility, but also its limitations in the following range of diseases.

Non-suppurative tenonitis, inflammation of the capsule around the eye-ball, a rather rare disease, seems to run a self-limited course ranging from about one week and a half to three or four weeks according to its severity. In every one of five instances seen, the symptoms began to subside so decidedly upon treatment as to create the impression that salicylate of sodium had shortened the duration by perhaps one half the time.

Episcleritis is a disease of indefinite duration, very apt to last weeks and months when not efficiently treated. I have always spared the patient needless annoyance by not ordering salicylate of sodium until I had tried the customary local treatment with insufficient success, as very quick results are sometimes obtained by local measures alone. The effect of salicylate of sodium cannot be foretold accurately in episcleritis. In many instances the disease existing for weeks disappeared in three to six days, in others more slowly. It was exceptional not to find a distinct influence in episcleritis.

In the deep form of scleritis, a rare disease with us, of which I have not treated many instances, the agent diminished promptly the intensity of the symptoms, but I was disappointed in observing as a rule very little progressive improvement and only a few patients gave me the opportunity to terminate the disease by means of salicylate of sodium.

Of diseases of the cornea the type I have

found to react most promptly to salicylic treatment is that of small circumscribed infiltrates in the substance of the cornea without tendency to ulceration, either single or multiple. The former are mostly of traumatic origin. In all such cases I do not begin with salicylate of sodium, unless the customary local treatment has proven unsatisfactory. Within a few days such infiltrates, usually begin to disappear even when they have proven rebellious to local treatment for periods of days or weeks. Superficial infiltrates, for instance in keratitis punctata anterior, are not influenced by the agent like those situated in the substance of the cornea.

Phlyctenular keratitis in its various modifications can generally be controlled by local treatment so efficiently that I consider salicylate of sodium uncalled for in most instances. But occasionally especially in older children we meet with lesions so persistent that no change can be seen after weeks' of local treatment. I have observed this particularly in forms resembling a localized episcleritis and in circumscribed patches of deep keratitis especially marginal, without tendency to ulceration. In a majority of instances of this kind the internal use of salicylate of sodium has been followed by prompt recovery, but I have seen too, a small proportion of complete failures.

In the more common form of diffuse interstitial keratitis, the syphilitic as well as the non-syphilitic, I have never seen any permanent benefit but sometimes temporary relief. The same want of success was found in keratitis following herpes zoster.

I have used salicylate of sodium too without any apparent influence in various types of corneal ulceration. But it does shorten materially the cyclitis which sometimes persists after the corneal ulcer has been cured by surgical means.

In iritis in which the agent had been highly praised by Chisholm I have been disappointed by it. As a rule its energetic use relieves the symptoms promptly to a moderate extent, at least for a while. But the disease does not end any sooner in typical

cases than without it. In the less typical forms of iritis, those with uncertain or indefinite duration, salicylate of sodium is sometimes of very decided influence, but by no means always. In iritis dependent on diabetes it has seemed to shorten the course. In recurrent and chronic forms of either unknown origin or following suppuration of nasal sinuses, I have seen at times unmistakable benefit. Its greatest utility was observed, however, in iritis secondary to corneal infiltrates, when it cut short the course within a few days.

In so-called serous iritis or more properly serous cyclitis I have found it of no use what-so-ever.

The disease in which salicylate of sodium has proven itself superior to any other therapeutic agent is irido-cyclitis due to traumatism with infection, as well as in sympathetic disease secondary to it. In all the diseases hitherto enumerated a cure could have probably been obtained without salicylate treatment, though after a longer period of time. In the inflammation of wounded eyes, however, the results of salicylate of sodium administration have been so striking in some cases that I believe the eyes could not have been saved without this agent. It is not infallible by any means. There are instances of inflammation in wounded eyes so progressive that salicylate of sodium has apparently no influence at all. Again a milder form of infection may be overcome by the resisting power of the tissues even without any treatment. But many instances do occur in which there seems to the experienced observer but little prospect of saving an eye and in which a decisive, though never very rapid, change for the better follows the use of salicylate of sodium. But I repeat, this is true only of large doses.

Even more positive and convincing than in the case of an eye primarily infected is the effect of salicylate of sodium upon sympathetic inflammation of the second eye excited by an infected injury of the first. I have had the opportunity of watching sympathetic inflammation under salicylate

of sodium treatment from the day of the start to its termination in three patients. All three recovered with perfect sight. The first I have known to remain well at least five years the second nearly three years, while the third died with intact sight nine months later. Even in so small a series of observations in a disease so dangerous to sight invariable recovery is the strongest possible proof of the efficiency of the treatment. The experienced observer could however see the decisive influence of the treatment by watching the progress of the individual case and the tendency to aggravation on omitting the agent for any longer period of time. When the treatment can be enforced from the beginning the inflammation does not maintain long its progressive character and does not resume it if the treatment is continued without any longer interruption. Two of my cases, however, showed that the faithful use of salicylate of sodium during the inflammation of the injured eye does not prevent the outbreak of sympathetic disease in the second. My conclusions regarding the reliability of salicylic treatment of sympathetic inflammation are in accord with those of Gifford in this country and Lindahl of Stockholm.

In acute exudative choroiditis, and in various forms of optic neuritis and neuro retinitis a sufficient trial has shown no influence whatsoever from salicylic treatment.

FURTHER OBSERVATIONS ON THE USE OF THE SOFT-POINT BULLET.

BY HOWARD CRUTCHER, M. D., CHICAGO.

In the *Illinois Medical Journal* for November, 1904, I presented some results following the use of the soft-nose bullets in deer hunting, comparing them in the effects produced by balls of larger caliber but slower velocity. It is surprising to note the confusion of mind that exists, even amongst persons of fine general intelligence, concerning the practical use of firearms. "Penetration" is often mis-used as an

equivalent for "killing power," when in fact the deadliest balls are designed not for penetration but for destruction. The theory of the hard-nose bullet is that it will make a clean, small hole through the body and travel on till its force is spent; on the other hand, the soft-nose ball is meant to spend its whole power within whatever object it strikes. The so-called "shocking power" of a bullet is a mere matter of arithmetic, but the "stopping power" of any gun depends less upon its charge than upon the aim of the marksman. A deer may be shot through the abdomen with a 30-30 ball weighing 170 grains, soft point, traveling at a velocity of 1925 feet per second, and run from one thousand to two thousand yards with its intestines mutilated beyond description. Here is an example of a fatal wound but not an immediately disabling one. If the hunter were after bear instead of deer, the practical differences between the two classes of wounds might be brought home to him in a most unpleasant manner. The only wound that can with truth said to be instantly disabling are those that involve the brain or the cord. Very extensive visceral wounds, even fatal ones, are not necessarily of the immediately disabling class. That wounds of the heart will permit of prolonged struggling the following cases will show:

A deer, gross weight 150 pounds (estimated,) was shot with a 160-grain 30-caliber bullet, having a soft nose, with a muzzle velocity of 1925 feet per second. The distance was from 100 to 125 yards. The animal ran either 80 long steps or 109 long steps after being shot (it being impossible to decide which of two shots took effect.) The deer seemed to stagger for an instant, but he certainly did not fall within sight of the hunter, and ran with undiminished speed as long as he remained in view. Fifty yards from where deer was found the fresh snow was bespattered with blood over a wide area. On examination a wound was found involving the 6th, 7th, and 8th ribs of the left side. All these bones were shattered. The base of the heart was torn almost in two. The two auricles and the left ventricle were converted into a common cavity by the

bullet. The chest cavity contained all the blood it would hold. The ball did not emerge from the body of the animal, but lodged in the deep tissues of the neck. Now, there is something very puzzling in this statement when it is recalled that the deer was not knocked from its feet by the impact of the bullet, which has a muzzle energy of 1316 foot pounds. Theoretically, its whole energy was expended upon the animal, yet he remained on his feet until overwhelmed by hemorrhage. In this case it is probable that a fowl if not corroded rifle barrel will explain the contradiction. That this animal should have run 80 yards after receiving such a terrible wound of the heart almost surpasses belief. It may interest students of pathology to note that this deer presented a rounded, well pedunculated growth clinging to the inner side of the thigh, just below the fold of the groin. It weighed three and a quarter ounces and was as pure a type of unmixed fibroma as I have ever seen. It hung by a pedicle not much larger than a lead pencil.

A running deer, gross weight about 110 pounds, received a charge of buckshot No. 5 at a distance of 50 to 60 yards. The animal ran a quarter of a mile and was not found till the next day. The carcass having frozen during the night it was with great difficulty that the examination was made. An experienced trapper who followed the trail said there were undoubted evidences of the deer having lain down several times during the flight. There was a muscular wound of the neck, a like wound of the thigh, and a penetrating wound of the chest. This last made a small, clean-cut hole through ventricles of the heart. The pericardium was distended with blood, but the amount of this fluid free in the chest cavity was small. The lungs seemed to have bled but little. All three buckshot lodged within the carcass of the deer.

As an illustration between mutilation and skill, it may be said that the largest ox may be instantly disabled and brought down like a flash at fifty yards by a shot through the brain with a 22 short smokeless cartridge carrying a ball weighing only 30 grains. I

have done this repeatedly. Whether such a charge would penetrate the bones of the spine is highly improbable.

DIAGNOSIS AND TREATMENT OF RUPTURE OF THE UTERUS.*

BY GEORGE SCHMAUCH, M. D., CHICAGO.

We wish to define rupture of the uterus as follows: Tearing of the uterus above the vaginal portion, occurring spontaneously or by violence during labor. We shall also consider in this definition utero-vaginal tears, excluding, however, according to Koblanck, those common cervical tears, which are the consequence of extraction or abnormal uterine activity before the cervix is completely dilated. Perforation of the uterus due to pressure points shall not be mentioned as properly belonging to the ruptures.

Next to sepsis and eclampsia ruptures of the uterus has the greatest mortality during labor. The varying interpretation makes it appear quite natural that statistics regarding its frequency should vary likewise. It is also influenced by the pathological percentage of cases in the various hospitals. The Berlin Frauenklinik shows a frequency of 1:462 in 37,000 labors. Iwanoff of the Moskau maternité reports 1:961 cases in 118,000 labors. The proportion of home-cases is 1:1428. As a general average the proportion will be 1:1500. This coincides with the statistics of Ehlers in Berlin, which are based upon death certificates. He gives in 1895, 48,000 labors with 11 ruptures, in 1896, 50,000 labors with 5 ruptures respectively 1:4000 and 1:10,000. Basing these reports upon a mortality of 60 per cent we do not quite obtain the above named figure, namely 1:1500. It has to be taken into consideration, however, that the practitioner rather states the ensuing peritonitis as cause of death, than the rupture.

Cervix tears occur of course more frequently. The complete perforating ruptures are found about four times as often as the incomplete ones. The mechanism of rupture

*Read before the Illinois State Medical Society, Rock Island.

is but a partially explored territory. Even the post-mortem specimen does not always aid us, to differentiate between primary tear and secondary prolongation. Likewise in practice we often find it difficult to separate spontaneous ruptures from those caused by violence. The force necessary to cause the rupture is reduced to a minimum in a uterus, which is, so to speak, "ready to burst," and may be represented by a careless examination or a sudden change of position.

As to the form of the tear, it makes no difference whether they occur spontaneously or by violence. Indeed, the most severe and irregular tears including for instance the bladder, occur spontaneously. Undoubtedly this is caused by the tremendous difference in pressure, a change of highest tension to complete relaxation at the moment rupture occurs. This sudden release produces the same effect as the snapping of a tight cable, followed by the most deleterious results for everything adjacent, for example rupture of the bladder, total exposure of the colon, detachment of the peritoneum up to the spleen.

The mechanism of the typical tears of the lower uterine segment, expansion tears, has no opponents today. It represents the teaching of Bandl, and the results are the so-called Bandl's tears. The symptoms of overdistension, the ascension of the contraction-ring and its oblique course, the tension of the round ligaments even between the pains, form the trio which enables the obstetrician to forestall or diagnose the rupture.

We can speak of overdistention, assuming the uterine walls to be normal, only after rupture of the membranes and complete dilatation and effacement of the os. A maximum tension does not come under consideration as long as the vaginal portion has not become part of the distended lower uterine segment. In case we have unyielding cicatrices of the cervix, the mechanism of the typical tears undergoes deviations. A circular tearing of the portio often follows.

According to Bandl rupture during labor will occur under the following conditions, namely, when the presenting parts meet abnormal resistance, either by its own size, by contraction of the pelvic inlet by obstruction

of the pelvis by tumors or by malpositions, such as oblique and transverse presentations. Contracted pelvis is by far the most frequent cause. Weidling and Lehman show that there is one rupture of the uterus to one hundred labors in contracted pelvis.

The normal, well-formed uterus, destined by nature to carry and deliver the child, hardly ever tears spontaneously. We find in the literature but a very few cases of spontaneous rupture in primiparæ, and these are not entirely free from objection. Kliehn mentioned five spontaneous ruptures in primiparæ among 347 cases, all above 30 years of age. Schmidt's report from Shauta's Clinic contains no primipara in 28 ruptures. Koblanck cites one rupture in a woman who had borne one child among 22 spontaneous ruptures.

As far as the normal uterus is concerned we can say: no overdistention, no rupture. The picture changes, however, when nature or human hand has created a predisposition. One previous overdistention causes lasting damage, a persisting reduction of the vitality of the muscle cells, furnishing a predisposition to rupture. H. W. Freund has shown that overdistention causes deficient involution, this in turn produces a state of atrophy. In studying the statistics you will find rupture frequent in 7 to 15 paræ. Predisposition as a causative factor in rupture, emphasized by Olshausen, Freund and Fritsch, is now generally recognized. Not every case shows histological changes, nevertheless we must consider it a general rule. Spontaneous rupture of the normal uterus without previous injury must be regarded as an exceedingly rare occurrence.

A previous overdistention of the lower uterine segment during protracted labor is, however, not the only cause of a subsequent rupture. Extensive gynecological surgery, confident of momentary results has created quite a number of predisposing factors. These are: The rupture following fixation of the uterus for correction of malposition, rupture following Cæsarean section, extensive cervical incisions, so-called Duehrssen's incisions (Hofmeier 2, Labhardt 4 cases) amputation of the portio (Velde 4 cases)

adnexial operations with cuneiform excisions (v. Fellenberg), the use of Bossi's dilator, Tarnier's *écraseur* perforations of the uterus by probe and dilator and last but not least, the curettage of the puerperal uterus. Every lesion of the uterine muscles leads to a permanent loss of substance. Repair takes place not by reformation of muscular but connective tissue, as shown by Askanazy in 1892 and lately confirmed by Marchand. This process produces a *locus minoris resistentiæ*.

The typical rupture of Bandl, affecting the lower uterine segment, takes place in the overdistended uterus, before the presenting part has passed the pelvic brim. Those cases, where rupture occurs after the head has entered the true pelvis or even is visible at the vulva, when the largest part of the child has left the uterine cavity, can be explained in this manner only, that the tear occurred in an old scar or rather represents the final enlargement of a previously existing fissure. The resistance of the pelvic floor furnishes merely the missing link. The participation of the vaginal fornix in spontaneous rupture depends entirely upon the tension of the vault and the tearing force. Utero-vaginal tears are found with comparative frequency in impacted transverse presentations and pathological anteversions (pendulous abdomen), because here the tension of the vaginal vault is very marked.

Any portion of the uterus, having undergone pathological changes, may tear at any stage of labor. Localization depends entirely upon the place and kind of pathological changes, causing the predisposition. In consequence a rupture of the fundus may occur under these circumstances, although rupture of the fundus occurs as a rule during pregnancy.

We also see ruptures in the third stage of labor. These are always caused by violence and are mostly the results of manual detachment of the placenta. Oswald has collected 9 cases, which were produced chiefly by midwives. However, even the most skillful operator may meet with this accident. We may encounter such firm adhesions between placenta and uterine muscle that separation is

possible only with considerable loss of substance. Abnormal insertion of the placenta in a naturally less resistant portion of the uterus, for instance at the tubal openings, or over a scar, operative or inflammatory, or abnormal decidua-formation, - so called decidua metastases, may lead to rupture. These conditions decrease the normal resistance to such a degree, that the tissues may give way spontaneously or to a mild force during manual detachment of the placenta. Rupture has even occurred with a forced Crede, as the case of Schwendner shows. The peculiar arrangement of the muscle fibres of the pregnant uterus in lamellæ, their imbrication, the connection of the longitudinal by oblique lamellæ, render the occurrence of a tear in a normal corpus almost impossible.

We differentiate between complete and incomplete ruptures; in other words, those with or without opening of the peritoneal cavity. Observations that the peritoneal covering *per se* also may tear, date back as far as 1875. Later observations show that these so-called peritoneal fissures may become external incomplete tears, involving the greatest part of the musculature down to the intact decidua. This variety may terminate fatally by hemorrhage. This again raises the question in which zone of the uterus does the typical tear originate. It was the universal belief that the peritoneum tears last, because it is more elastic than the muscle. This opinion requires some modification. A differentiation is essential between those parts of the uterus, where the peritoneum is but slightly attached as the region of the bladder and the parametria and those parts, where the peritoneum is closely adherent to the underlying muscle; in other words, where the muscle fibres insert directly at the peritoneum, as in the posterior and upper portion of the uterus. Individual variations certainly exist. There is no doubt that the muscle tears first in the former variety. Here the tear, if not occurring too suddenly, produces a hæmatoma. It is evident that an incomplete rupture of this variety with formation of a hæmatoma, may be transformed into a complete one by the joint action of

uterine pains and the presence of the accumulated blood. A nice illustration of this is furnished by the cases of Krebs and Goth, where the appearance of a hæmatoma in the region of the bladder led to the erroneous assumption of a distended bladder, when the rupture became manifest by the sudden disappearance of the tumor. However, this process is exceptional. The usual modus is rather such that the hæmatoma when it complicates a complete rupture is of secondary nature, caused by the opening of subperitoneal and parametrical vessels. A spontaneous rupture causing an incomplete tear becomes very rarely complete, for, at the moment rupture has occurred, the principal condition of tearing, namely overdistention disappears.

In the second variety, where the tear has its origin above the internal os, in a portion of the uterus, whose external layers are closely united to their peritoneal covering, the peritoneum must tear first. Here formation of a hæmatoma is impossible. The fact that with distention of a hollow viscus, the outer layers, in this case the serous covering gives way first, rests upon physical foundation. Knauer's four cases of external incomplete rupture substantiate this theory. In three of those the distention of the uterus was still increased by premature detachment of the placenta. The individual muscle fibres behave in these cases like any overdistended muscle. The tear does not take place in the center but at the point of insertion, which is represented here by the peritoneal covering. It appears feasible that timely delivery could prevent the completion of such a tear into the cavity of the uterus.

The etiology of uterine rupture should receive a more detailed consideration, because the conception of the individual symptoms is impossible without it. You will therefore permit me to discuss the value of the classical symptoms of rupture from an etiological standpoint.

The diagnosis of uterine rupture during labor is made, when we find that the above mentioned symptoms of threatening rupture are followed by the symptoms of rupture proper. Bimanual palpation will confirm this diagnosis by the findings. We find the symp-

toms of threatening rupture only in those cases of spontaneous rupture where a normal uterus has been subjected to labor for an excessively long period of time as in obstructed labor. The ratio between presence of symptoms of imminent rupture and the number of preceding labors is inverse. The larger the number of previous labors, the shorter the period between occurrence of rupture and the onset of labor. The same holds good with ruptures occurring in old cicatrices, no matter what their origin. In multiparæ or women where an anamnestic possibility of pathological changes of the uterine muscle exists, diagnosis must be based upon the symptoms of rupture proper, in the absence of those of overdistention.

The following symptoms pertain to the child as well as to the mother. To the former belong the suddenly occurring mobility, the retraction of the presenting part and the palpability of foetal parts outside of the uterine cavity. These are by all means the most striking of all symptoms of rupture of the uterus, if labor has been conducted by one person. The forelying part may deviate if great disproportion between it and the pelvic inlet exists and come to lie in the iliac fossa. An improper posture may lead to a deviated vertex presentation. When however the foetal head has entered the pelvic inlet and has been fixed by a number of pains after rupture of the membranes, a retraction will occur only by elimination of the *vis a tergo*; in other words, the contracting uterus. This is possible only by abnormal distention and relaxation of the uterus, produced by accumulation of blood in its cavity, premature detachment of placenta or by rupture. The natural tonus of the uterus, present also between pains is absent, likewise the intra-uterine pressure is altered in both cases.

Premature detachment of the placenta causes an increase of intrauterine pressure and the foetus becomes movable by the increase of the uterine contents. Rupture of the uterus renders intrauterine pressure negative. In complete rupture mobility of the presenting part is such that it remains in the position, placed by the examining hand, without returning to the pelvic inlet.

This symptom is less pronounced in incomplete ruptures and is seen less often, in impacted transverse presentations than in vertex presentations.

The palpation of parts of the fœtus external to the uterus is a pathognomonic symptom. In woman with thick abdominal walls anæsthesia is often required to elicit it. Palpation of the abdomen of a woman with rupture of the uterus is not always easy on account of the *défense musculaire*. In other cases the small parts of the child are felt alarmingly plain. The presence of the contracted uterus besides the fœtus, facilitates differentiation from a thin walled uterus.

As soon as rupture has occurred and the child has passed into the abdominal cavity, in part or in whole, placental circulation is disturbed so seriously, by the change in intrauterine pressure, that as a rule the child dies. If rupture occurred during operative delivery, the child may live.

The surrounding of the child by intestines changes the percussion note to tympany on top as well as laterally. The detachment of the placenta may lead to a prolapse if the presenting part permits it. Even experienced obstetricians, called in after occurrence of rupture, have been misled by this detachment of the placenta and diagnosed placenta previa or prolapse of the placenta. With a sufficiently dilated cervix the condition of the presenting part will make the diagnosis possible, not so in rupture of the fundus uteri or in insufficient dilatation of the os. Here diagnosis is either impossible or made too late.

The second cardinal symptom is the hemorrhage. This may be external, sub or intraperitoneal. Only very sudden and violent tears tend to open large vessels. Rupture in old cicatrices or in defects of the muscular substance occurs very gradually. It begins with a small separation, increasing slowly. The opening is filled by the escaping fœtal parts and there is almost no hemorrhage on account of the anemic state of the cicatricial tissue.

A 5 para, moderately flat rachitic pelvis, rupture during two last deliveries, first spontaneous rupture, complete tear of cervix, craniot-

omy, second induction of premature labor, high forceps delivery with deep incomplete laceration of the cervix, treatment both times drainage of the tear, good recovery, became pregnant again. Upon examination I advised Caesarean section and told her to report every month; she was instructed to enter the hospital as soon as labor began. As her pains started in absence of her husband, she had to wait until he came home. About an hour after the beginning of the pains she knocked at the door of our confinement hall; she had walked to and from the carriage and did not complain. Regular uterine contractions, but not severe, membranes intact. On account of danger of a rupture, preparations for laparotomy were hastened. This proved justified. Opening the abdominal walls we noticed the anterior wall of the uterus to be torn for a distance of 12 cm. From this tear protruded a very peculiar sight, the white shoulder of the child. There was hardly any blood in the abdominal cavity. By enlarging the opening of the tear, a strong and living child was extracted easily. The sterilizing of the patient was naturally indicated, but she kept her uterus and recovered without complications.

The soft and weakened wall of a uterus of a 12 or 15 para may tear in a similar manner without much hemorrhage. The place of tear also influences the hemorrhage, lateral tears with injury to the uterine artery cause a formidable hemorrhage, while the tears of the posterior wall are usually not followed by much bleeding. In tears with irregular edges, hemorrhage ceases soon, whereas torn vessels exposed by the tear bleed excessively. In such cases fatal hemorrhage may occur often as late as the sixth or seventh day by detachment of the thrombi.

External hemorrhage is the chief symptom of incomplete rupture. We may find it as a continuous stream or a mixture of blood and amniotic fluid may gush out upon lifting the head during examination. The mobility of the presenting part is not so pronounced in these cases. Danger of fatal hemorrhage is relatively larger in incomplete rupture; 61, 5 per cent; 34, 4 per cent (Koblank). Aside from placenta previa and hemorrhage resulting from torn fœtal vessels within the membranes, premature detachment of the placenta will have to be excluded. The objective findings will guard against error in this respect. The darker color of the blood, its intermittent escape during the pain and above all the distended uterus speak for a premature detachment of

the placenta. As this condition occurs much less frequently, rupture should be considered first and excluded.

In complete tears the external hemorrhage may be associated with marked internal hemorrhage. To prove the presence of free blood in the peritoneal cavity by percussion in various positions, will succeed in but few cases. The diagnosis of internal hemorrhage during labor in term is based chiefly on general symptoms. Incomplete tears are often accompanied by subperitoneal hemorrhage, leading to hæmatoma. This may be mistaken for the bladder as mentioned before. Palpation will reveal a peculiar doughy tumor next to the uterus. As a rule the hæmatoma is formed during labor, but in some few cases it may arise post partum. Late hemorrhage during the puerperium in connection with hæmatoma furnishes certain proof of incomplete rupture not recognized during labor. These hemorrhages may be very sudden, surprising the puerpera when she leaves the bed to void urine, as I have personally observed in one case.

The subperitoneal anteuterine emphysema is, of course, pathognomonic for rupture. It occurs chiefly in incomplete rupture, but may be present also in complete tears. In case of bladder-involvement, no urine is secreted and catheterization yields but a few drops of bloody urine.

Another classical symptom is the cessation of pains after rupture. This also has to be taken with a grain of salt. The opinion of former times was, that at the moment of rupture, nature stops the pains as a sort of self-defense. At present this view requires modification. All larger tears, especially those of the transverse variety must, as a matter of course, be followed by cessation of pains, as the conditions for regular pains, consisting of a certain intrauterine pressure are not present. Nerve tracts are also interrupted. This does not apply to longitudinal and incomplete tears. The observations are numerous of spontaneous expulsion of the child after rupture. I have reported such a case, where after correction of a face presentation, rupture occurred, which was not diagnosed.

The child was born spontaneously, the woman died of peritonitis, and only at the autopsy a complete rupture was discovered. In addition I may remark that regular pains may exist, but are not felt as such by the parturient from lack of intrauterine pressure.

As a third, we have to mention the general symptoms, the signs of internal hemorrhage and the statements of the parturient. At times an intelligent parturient will say that she has felt a piercing pain at the height of a labor pain, that she feels as if something had torn internally. Others state that the child which was already low down has receded. Simultaneously the seat of rupture, excepting those of the posterior wall, which are not accessible to touch, becomes very sensitive to palpation.

More or less pronounced symptoms of collapse are present in every case of rupture. It must be ascribed chiefly to the loss of blood, and secondarily to shock, depending upon how much of the child has escaped into the abdominal cavity. It is wrong, however, to defer the diagnosis of rupture until collapse occurs, because successful treatment will be instituted too late. The pulse changes earliest, without apparent cause it becomes small and frequent. Pallor of the face, coolness of the tip of the nose and extremities, fainting spells, cold perspiration, anxiety, yawning, air hunger, fear of death; in short, the symptoms of a grave acute anæmia, show later. The more sudden these phenomena occurs the more striking they become. A sudden collapse in a parturient previously entirely well, will arouse every obstetrician. It is different, however, when a woman has been in labor for days and her general condition is low, or when rupture occurs during anæsthesia. All ruptures, due to cicatrices and defects, or in old multiparae, take place without any stormy symptoms whatsoever. They have been justly called "latent ruptures" by H. W. Freund. In my own case, cited above, the woman was able to walk to the delivery room without complaint. Kammann reports a case of a 12 para, 37 years old, with a longitudinal tear from the vagina

up to the tube. She was apprised of her condition only when she noticed hemorrhage upon urination. Many more cases of this kind could be enumerated.

The value of each symptom is commensurate to the order of my enumeration. Their presence renders the existence of rupture very probable. Positive proof is obtained only by the objective findings on bimanual palpation. Strict asepsis is necessary, sometimes a light anæsthesia required. The findings are simplest in the uterovaginal tears. The tear is also easily found in cephalic presentations on account of the receding of the head. Obstacles are greater in impacted head and transverse presentations. The examining hand can not pass the forelying part in these cases, hence the diagnosis will have to be based upon the symptom complex. The same applies to rupture of the fundus, with the exception of those cases in which the greater part of the child has left the uterine cavity. In cases of rupture with the presenting part above the inlet, the vagina seems elongated, the lips of the cervix are hanging down relaxed, especially in annular tears. When the vaginal portion is not included in the tear, the os may even collapse.

An absolutely positive diagnosis of complete perforating tear can be made in those cases only, in which a greater part of the child is in the abdominal cavity, or where omentum or intestines prolapses through the tear. In the majority of cases the diagnosis of rupture *per se* must suffice, to be followed by immediate delivery. Examination after delivery will reveal the form of the tear and the involvement of the peritoneum. It is very difficult to find one's way among the masses of blood and torn muscles, to which often membranes of the ovum are still adhering. One is easily deceived by the thin peritoneal layer, and imagines he holds the intestinal loops in his hands, while they are still covered by the elastic peritoneum.

An unexpected hemorrhage during the performance of high forceps, version, or craniotomy makes the event of violent rupture highly probable. During version there are only two ways in which a considerable

hemorrhage may be brought on. Either the placenta has been separated in the attempt or we have to deal with a rupture of the uterus. A suddenly appearing mobility of the foetus points with great certainty to laceration. If during a difficult version a sudden hemorrhage occurs and turning becomes suddenly easy, rupture is likely to have happened. As rupture may occur without alarming symptoms and the torn uterus may continue its work, we always have to consider in multiparae rupture of the uterus as the possible cause of post partum hemorrhage. Successful treatment during this stage of labor depends solely upon an early diagnosis. The sooner we find the cause of hemorrhage the more hopeful we can be of the outcome of our treatment. Expression of the placenta by Crede and cessation of the hemorrhage will alleviate the fears of the obstetrician at once. It is different, however, when hemorrhage continues with a well contracted uterus. No other possibility remains than rupture, if retention of a placental cotyledon can be excluded. The diagnosis is to be made by digital exploration of the cervix, with rubber gloves. As this procedure is associated with danger of infection, it should not be undertaken before exclusion of all other causes of hemorrhage. Beyond doubt many incomplete tears are never recognized because they produce a temporary hemorrhage only and heal without reaction. Only subsequent labors may cause graver disturbances. On the other hand, a portion of the cases of sudden death after delivery are undoubtedly due to tears, which pass unrecognized. Almost one-third of all deaths in placenta previa are due to hemorrhage from a cervix tear. According to the statistics of our Berlin hospital, tears of the cervix, after version in placenta previa, are six times as frequent after the most careful extraction than in spontaneous expulsion. In very rare instances disappearance of the ligated cord within the vagina, as reported by Puppel leads to the diagnosis of rupture. More often it is the unsuccessful Crede, which forcing one to manual removal of the placenta in continuous hemorrhage, discloses

the presence of a rupture. Rupture of the fundus will be diagnosed post partum only by digital exploration of the uterus.

In discussion of the treatment of uterine rupture we will casually remark, that a suitable prophylaxis is first and foremost. As to the therapy of existing rupture, Zweifel is undoubtedly right in stating that one-fifth of all cases die of hemorrhage untreated, either on account of wrong diagnosis or insufficient treatment, due to external circumstances. Danger of fatal hemorrhage and sepsis furnish the indications for treatment.

Before active interference in rupture, the parturient must be delivered in a quick but careful manner. Mutilating operations are here first in order. Craniotomy in head presentations and embryotomy in impacted transverse presentations. Forceps as a rule are of no avail, because the non-engagement of the head, which caused the rupture, does not permit their application. Version is indicated, if a foot can be reached easily and only a smaller portion of the child is within the abdominal cavity. Removal by laparotomy is indicated, when the child is entirely or to a greater extent in the abdominal cavity, likewise in absolutely contracted pelvis or tumors obstructing the pelvic canal. External palpation and the size of the uterine cavity inform us how much of the child has escaped into the abdomen. The placenta is usually detached and may be carried a great distance by the peristalsis. In case it does not follow the extracted child we have to find it by using the cord as a guide. Craniotomy on such an extremely movable head is at times very difficult. In the presence of considerable difficulty and with a possible occasion of laparotomy, one should desist from further dangerous attempts. With hemorrhage possibly fatal the nature of the tear becomes second consideration and prevention of exsanguination stands in the foreground. In a hospital with the facilities for immediate laparotomy, that is within 15 or 20 minutes, manual compression of the abdominal aorta, with tying of the thighs and eventually temporary tamponade are usually sufficient to meet momentary danger. In the home we

transfer the woman immediately to a table with good illumination. The vaginal portion is exposed by large specula, pulled down by vulsella, and the bleeding branches of the uterine artery clamped when possible by stout forceps. Suture of the wound may follow in uncomplicated tears. A prolonged search is useless. If the bleeding portions are not easily reached, tamponade of the tear should be instituted at once. If the parametrium, the usual source of continuous bleeding, is opened, we must also pack it. Compression of the uterus in anteflexion against the symphysis and the vaginal tampon by means of wads of cotton and bandaging, will prove a valuable adjunct in anterior tears; in posterior tears fixation in retroflexion is employed.

The further treatment depends upon purely external circumstances. If a hospital is within reasonable distance, transfer after packing is to be insisted upon because of secondary hemorrhage. If skilled aid is of ready access, laparotomy in the home is to be preferred in case of excessive hemorrhage, whenever the surroundings permit it. The danger of transportation of a woman with even a well tamponed uterine tear is about equal to a laparotomy, performed under aggravated circumstances in a home. In the absence of any possibilities for transfer to a hospital or operations at home, the physician will have to deliver by natural route and be content with tamponade, even if the child has escaped into the abdominal cavity. Very strange occurrences are reported in the literature, as for instance, where a physician used the cotton of a bedquilt for tamponade and his patient recovered. Quick and appropriate action gives better results under such circumstances than long inactive waiting for assistance. The country practitioner can not be expected to be prepared for laparotomy in every obstetrical case, nor can the knowledge of a perfect technique for such an operation be demanded of him. Tamponade is at present considered equal to laparotomy, if external circumstances do not allow its performance. In less severe hemorrhage or its absence in incomplete tears, the physician in

private practice or country will choose tamponade for obvious reasons. For tamponade aseptic material should be used, sterilized iodoform or silver gauze. It is to be introduced with the speculum if possible. Hæmatomata should be evacuated, the gauze introduced should fill the tear and eventually the parametrium. A tamponade of the uterus is needed only to the extent it aids the packing of the tear. It should remain five or six days or longer and be removed piece by piece. An ice bag placed upon the abdomen relieves the pain. Absolute rest is indicated to the exclusion of even the slightest movement. Peristalsis is arrested by opiates and the bladder is emptied by catheterization. Tympanites is often present and annoying and is combatted by strychnine and atropin. Irrigations are indicated in incomplete tears only. These tears frequently heal without special treatment, when not infected. The first large collection of cases of rupture of the uterus by Kliehn (347 cases) showed that drainage by rubber tube gave better results than simple gauze tamponade. However, tears producing serious hemorrhage can not be treated with simple rubber drains. Here hæmostasis is the first duty. Gauze and rubber tube may be used simultaneously at times. The controversy regarding drainage or operation must at the present time be decided in favor of circumstances governing the action of the physician.

Operations to be mentioned are:

1. Transperitoneal method, with incision parallel to Poupart's ligament, applicable only in incomplete tears.

2. Suture by vagina, only in incomplete and easily accessible tears.

3. Vaginal hysterectomy, used in anterior and posterior tears and in fundus-rupture. It is well indicated in older multiparæ and infected cases, it is easily performed and well stood by the patient. Unfortunately it can be employed in a small number of cases only. Lateral tears and those involving the bladder obscure the field of operation in such a way to such an extent, that this operation has to be discarded in favor of laparotomy.

4. Laparotomy is the classical operation

for rupture of the uterus. It is done with less danger of infection than tamponade, and allows better orientation, than any other method, it offers the best results in the hands of a conservative surgeon. If early performed it is the best safeguard against fatal hemorrhage. It is the only method by which the blood accumulated in the abdominal cavity can be removed. Treatment by drainage exposes to danger of decomposition of the bloodclots, although this may not be paramount with sepsis. The sooner laparotomy is performed, the better the results; violent ruptures for this reason give a better result than spontaneous, because they are earlier diagnosed. In a well appointed hospital infection during operation can be avoided nowadays with certainty. The results were different twenty-five or thirty years ago. Karl Schroeder of Berlin, who was about the first to treat rupture of the uterus with the child in the abdominal cavity by laparotomy, had 8 deaths with 8 cases and in consequence instituted treatment by drainage in 1880. He employed rubber T drains, 30 cm. long, which were introduced far up into the abdomen and this enabled him to save a few of his patients. The only contra-indication for laparotomy is a manifest infection, and this only in absence of marked hemorrhage. If the latter is present a laparotomy offers still better chances than tamponade. The presence or absence of infection depends upon the number and experience of the examiners. The infected patient presents a slightly icteric hue, with a pinched expression more marked than that produced by an anæmia. The chief advantage of laparotomy consists in the possibility of complete toilet of the abdominal cavity and the conservative treatment of the ruptured organ. Paintaking hæmostasis, the removal of all clots and liquid blood with the patient in a horizontal position, or, if possible, in half erect posture, facilitate the recovery.

Some authors favor supravaginal amputation, others total extirpation on account of its simplicity. Supravaginal amputation preserves the architecture of the pelvic floor and often permits the woman to menstruate.

On the other hand, the sound and non-infected corpus is removed, while the lacerated cervix remains. Hence total extirpation is more serviceable when the vaginal portion is torn and has to be sutured. Even amongst the champions of operative treatment at present there is noticed a more conservative tendency. If possible the uterus should be preserved. In circular tears and those with markedly contused edges, this procedure is of no avail. The advice to remove the uterus in case of infection is not very feasible, as we possess no precise signs of this condition. In general we shall resort to total extirpation more readily the longer the time which has elapsed since rupture, while we will favor conservatism in simple wound conditions and "clean" cases, i. e., not examined. Quite commendable seems the proposition of Zweifel, who in markedly anæmic woman simply sutures the serosa after hæmostasis. This is doubtless the most simple operation and may be combined, if necessary with excision of the tubes and their uterine insertions.

Literature of the last four years shows the report of 12 cases of conservative laparotomy in uterine rupture. They are the cases of Freund, Stroganoff, Leopold, Torngreen, Veit, Kuestner vs. Guerard, Wiener, Kaman.* They were all except two primary laparotomies, one of the latter secondary laparotomies died. To this number we may add 10 cases of Zweifel, with suture of the serosa and 2 deaths. Total number, 22 cases, with 3 deaths, i. e., 13.6 per cent. Hereby it is proven that conservative surgery with proper selection of "clean" cases, gives very good results.

With the question, if a case is "clean" or infected, we have to consider drainage. To decide this question one has to be aware of the fact, that neither laparotomy, tamponade, nor drainage protects against existing infection. If infection is present, extirpation of the uterus is not equivalent to an absolute elimination of the source of infection. It does not protect against "autoinfection," for sufficient wound surfaces remain

for the streptococci to invade. Drainage removes superfluous secretion, prevents its accumulation and subsequent intoxication, but does not bar the spreading of pathogenic microorganisms by the lymphatics. Drainage of the peritoneal cavity after laparotomy is in consequence not absolutely necessary. It is indicated only in doubtful cases or incomplete toilet of the abdominal cavity. Otherwise vaginal drainage of the subperitoneal wound surface will suffice. Large hæmatomata must always be drained after removal of the clot. Peritoneal defects are to be covered by adjacent organs, if repair is not otherwise possible. In laparotomy hæmostasis is the first principle, then follows the repair proper.

Mortality rate of uterine rupture is still very high, incomplete tears certainly give a better prognosis than complete ones. The conclusions in this paper are based upon the results of the large European University hospitals and especially the Berlin Frauenklinik. You find them collected in Schmit's paper. However, these statistics date back to the year 1880, a time when laparotomy was still a dangerous operation.

There are 246 cases of complete and incomplete rupture:

K. V. Braun, Vienna, 19; recovered, 7.

Koblanck, Berlin, 80; recovered, 21.

Deckner, Königsberg, 9; recovered, 3.

Taufer, Budapest, 43; recovered, 17.

H. Ludwig, Vienna (Chrobak), 9; recovered, 4.

Schmit (Schauta), 19; recovered, 10.

To these I have added:

DeLee, 10 cases, 4.

V. Walla, 28; 9.

Zweifel, 29; 16.

Summary, 246 cases; recovered, 91.

That means a mortality of 63 per cent.

This rate, according to Schmit, is reduced to 58.26 per cent, when those cases are omitted, which died without treatment or during operation.

The only modern statistics at present in our hands are those of Schmit, who is an adherent of the tamponade treatment: 19 cases, 1891-1900, with a total result of 47.37 per

*Newmann Doorland, *Medicine*, 1904, and Winslow, Maryland M. Taur, 1903; secondary operations, recovered, added to proof.

cent dead, or when the cases, which died during operation are deducted, 44 per cent.

Operative mortality, 50 per cent.

Drainage mortality, 38.46 per cent.

A report from Krebs (Toporsky Posen) of 10 cases of complete rupture, principally all operated, 1898-1904, gives a mortality of 50 per cent.

The individual reports, as found in the literature of the last four years comprise only complete tears.

I found 74 cases with a mortality of 32.43 per cent.

58 laparotomies, 17 dead; 30 per cent.

16 tamponades, 7 dead; 43.7 per cent.

The question of conservative surgery in rupture of the uterus has so far only been discussed from the point of view of saving time and avoiding infection. Literature of the last few years reveals a number of cases in which the previously ruptured organ, or the uterus subjected to Cæsarean section has suffered from a new laceration during a following labor. There are 29 cases of rupture, following Cæsarean section to be found in the literature at hand. They are: Kruckenberg, 21 (most of these were not sewed properly); Olshausen, 2 (1 before Saenger's method of suture was used and 1 afterwards out of a number of 180 cases treated this way), Everke, Wagner, Munro Kear, Eckstein, Targett, Meyer 1.

Spontaneous and traumatic rupture occurring before labor had set in are not included. No reference is made to those cases in which imminent rupture of the uterus furnished the indication for the second operation. I find reported 34 cases of rupture of a previously torn uterus. Couvelaire, 9 ruptures in 17 cases of labor at term after previous rupture, i. e., 53 per cent Peham, 4; Labhard, 2; Kriwsky, Peters, Alberts, Dittel, Wenzel, 1 each.

These reports prove distinctly that Cæsarean section, as well as tearing in some cases, totally destroy the fitness of the uterus for subsequent labor, and in most cases diminish it considerably. Whether the improper method of sewing or a deficient union

of the wound, surfaces is the cause of tearing after Cæsarean section is difficult to decide. Some reports of repeated Cæsarean section show that the serous covering only was united, whereas in others no sign of the old incision was to be found at all.

However, it would be premature to conclude that the uterus, after rupture or Cæsarean section is absolutely unfit for labor. We are not justified by these reports in declaring total extirpation of the uterus as the only proper procedure. There are a number of reports made, which show that a prematurely induced labor and even labor at term were brought to favorable termination for mother and child.

The possibility of a subsequent labor will always depend upon the extension and place of the tear. Especially lacerations of the lower uterine segment incline more than others to rupture. A scar at this site is as shown by H. W. Freund drawn inside of the cavity of the lower uterine segment, and, therefore, prevents in some way the normal formation and extension of the lower uterine segment and might keep the head from descending, as observed by Stroganoff; since the cicatricial tissue lacks the normal fixation which the rest of the uterus enjoys.

The same consideration leads to the conception, that vaginal Cæsarean section, when performed by one incision, is liable to interfere with the function of the lower uterine segment in succeeding labor. At present there are no confirmations of this apprehension.

Furthermore, we will have to conclude, that the classical Cæsarean section for relative indication, a relatively frequent operation now a days, owing to our confidence in asepsis, will have to be more restricted in future, in favor of the more conservative lateral section (pubiotomy), which leaves the bearing organ intact.

Whoever, after rupture of the uterus, intends to save his patient from the possibility of pregnancy and its subsequent perils, should content himself with resection of the tubes and adjacent uterine tissue. Even most complicated tears will heal by conservative

treatment as proved by many reports. The decisive factor will always be the presence of infection.

In case a woman becomes pregnant after previous rupture, premature labor, labor at term, and Cæsarean section will have to be considered. The condition of the individual case, the form, place and mobility of the cicatrix, the desire of the woman to have more children will decide our procedure. Abortion is very rarely indicated. When there is any endangering distension present, we will resolve upon Cæsarean section. Premature labor commonly gives good results in labor after rupture, but we should guard against a too hasty use of over-large Colpeurynters, since they might produce a new laceration. In general we may say that we will be compelled to draw upon our entire store of obstetrical knowledge and art in these cases, make the labor as easy as possible for the woman, and deliver her instrumentally as soon as there is a possibility of a harmless delivery, be it by forceps or extraction of the child.

SOME EYE PROBLEMS THE GENERAL PRACTITIONER IS CALLED UPON TO SOLVE.

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Ophthalmology of all branches of medicine has received the almost unanimous consent of the medical profession to exist as a distinct specialty. This well-recognized separation may often distract the general practitioner from exhibiting a keen interest in the study of ocular phenomena, and may prejudice also his desire to bestow the same relative consideration on ocular findings as he readily grants clinical manifestations of other organs of the body. For two reasons, at least, this practice is not to be commended. First, because the general practitioner is called to diagnose the eye disease—in the vast majority of cases, before the oculist is consulted; second, because in passing lightly over the

evidence obtainable from the eye, clinical data of distinct value may be underestimated or entirely ignored.

A brief reference to some ocular manifestations occurring in nephritis, diabetes, locomotor ataxia, syphilis, and rheumatism will demonstrate the importance of attention to eye findings.

It is my intention merely to direct attention to the frequency of ocular involvement in these diseases, in order to emphasize their diagnostic and prognostic value in connection with the disease itself.

Nephritis—Many ocular changes occur in Nephritis, but involvement of the Retina, in particular, presents evidence at once reliable and conclusive.

Norris estimates that fully 25 per cent of the cases of Bright's disease have a Retinitis. When it is present, the element of prognosis is greatly simplified. Few cases survive longer than two years after it is discovered and the majority die within a year. Belt records 419 cases, of which 72 per cent died within one year and 90 per cent within two.

Diabetes—In Diabetes, Iritis is found in 5 to 6 per cent of cases; Retinitis in 20 to 30 per cent; Cataract in 4 to 25 per cent. When Diabetic Retinitis develops, the prognosis is exceedingly grave.

Loco-Motor Ataxia—In Loco-Motor Ataxia, atrophy of the optic nerve occurs in about 20 per cent of cases. It may ante-date the appearance of ataxia, the lightening pains, loss of knee jerk, and other spinal symptoms from 2 to 20 years.

Disorders of ocular muscles is present in 20 to 38 per cent of cases; Argyll-Robertson pupil in 76 per cent.

Syphilis—Alexander from a study of the statistics of eight German ophthalmological clinics estimated that 2.16 per cent of diseases of the eye are the result of Syphilis. Thirty to sixty per cent of the cases of Iritis are due to Syphilis and 59.4 per cent of ocular muscle paralyses.

In congenital syphilis, interstitial or parenchymatous keratitis occurs in 50 per cent of cases.

Rheumatism—Rheumatism is the etiolog-

ical factor in the majority of Iritis cases not caused by Syphilis.

This brief reference is sufficient to demonstrate the startling frequency of ocular involvement in general disease, and the distinct value of such evidence from a diagnostic and prognostic standpoint. Loring's estimate of the value of the Ophthalmoscope in this connection bears repeating: "In the whole history of medicine," he writes, "there is no more beautiful episode than the invention of the ophthalmoscope and physiology has few greater triumphs. With it, it is like walking into nature's laboratory and 'seeing the infinite in action.' While oftentimes, through its agency also, we get the first intimation of disease in remote and seemingly unconnected organs, so as to read, as if in a book, the written troubles of the brain, the heart, the spleen, the kidney, and the spine."

Foreign Bodies in the Cornea—The management of foreign bodies in the cornea, while apparently a simple matter, is one of the most fruitful sources of serious disease of the eye.

The chief danger arising from such an injury is infection. This may come from the foreign body itself or be introduced during its removal.

The production of an ulcer with its grave consequences entailing either opacities of the cornea or perforation is the usual result of such an infection. Strict antiseptic measures are indicated in removing foreign bodies. In order that the least amount of Corneal tissue be disturbed, only the smallest pointed instrument is used. This is wiped with a pledget of cotton saturated with alcohol, or better still dipped for a moment in a solution of carbolic acid and wiped thoroughly dry before using. After removal of the body, the cornea is gently irrigated with 1:5000 corrosive sublimate solution. It is an excellent practice to apply a bandage for twenty-four hours.

Differential Diagnosis; Iritis, Conjunctivitis, Scleritis—Because Iritis, Conjunctivitis, and Scleritis all cause redness of the white of the eye, they are sometimes confused in Diagnosis.

In Iritis, there is no discharge; in Conjunctivitis, the eyelids are gummed together in the morning. In Iritis, there is circum-corneal injection giving rise to a pink or pale violet zone around the cornea. The appearance of the Iris, however, is the decisive test.

The Iris, in Iritis, loses its normal lustre, its circular outline, and the pupil is contracted. If a drop of Cocaine be instilled, the pupil dilates irregularly, due to the adhesion of the posterior surface of iris to anterior capsule of lens.

In Scleritis, the characteristic appearance of the purple, rather than red spot close to margin of cornea, and exclusion of the symptoms common to Iritis and Conjunctivitis, will easily distinguish this disease.

Glaucoma—Cases of Glaucoma are not uncommonly treated for sick headache, neuralgia, erysipelas, influenza, and toothache. Associated with Glaucoma is usually found rapid failure of vision; a shallow anterior chamber; dull cornea; semi-dilated pupil, and most important of all, increased tension of the eyeball.

In all cases of suspected Neuralgia, the tension should always be carefully taken. It is the one symptom of Glaucoma which establishes beyond question its diagnosis.

Cocaine—The chief use of cocaine in eye practice is as a local anæsthetic in operations and for diagnostic purposes to demonstrate the presence of adhesion in Iritis. Its use is not entirely without danger. Absorption through the puncta may occur, producing toxic symptoms. A transient amblyopia has been reported and Glaucoma has been produced. Dryness of the cornea sometimes occurs from its use in operations and a variety of catarrhal conjunctivitis has been described. In instilling Cocaine to avoid absorption through the puncta and entrance to the nasal cavity, either the lower lid should be everted or the puncta closed by pressure of finger.

Atropine—Atropine is one of the most, if not the most important therapeutic agent of the ophthalmologist. Improperly used, it may produce blindness; judiciously em-

ployed, its visual triumphs are legion. It is indicated in correcting errors of refraction; spasm of accommodation; treating convergent strabismus: diagnosing and breaking up adhesions in Iritis; ulcers of the cornea; and inflammatory conditions; Iritis; Cyclitis; Choroiditis; Retinitis; Scleritis, and circular Iridodialysis.

It is contra-indicated during lactation and pregnancy; in Glaucoma, in subjects over 40, or cases showing tendency to increase of tension, and in ulcers of the cornea with impending perforations. As with Cocaine, toxic symptoms may result from absorption through the puncta, and the same precaution in instilling should be observed, viz.: either everting lower lid, or closing the puncta by pressure with the finger.

Glaucoma, or tendency to increased tension, should be absolutely excluded before atropine is used. A safe rule is—always try the tension before instilling. Many exhibit intolerance to the drug, and, therefore, weak solution should be preferred.

Treatment Advised for Cross-Eyed Children—What treatment is to be advised for cross-eyed children? Perhaps no question presses the family physician for solution more frequently than this. It might truthfully also be said, that no question has in the past, and to a less extent even the present, been surrounded by a greater haze of prejudice, darker clouds of empiricism and cobwebs of fear and dread. Fanciful tales of the dire consequences following the use of that alleged popular sight-destroyer, "Belladonna"; exaggerated myths of the sad results following operations to straighten cross-eyes; staunch, but sadly misdirected reliance in nature to aid the victim to "out-grow" the affliction and strong popular prejudice against the use of glasses, have been and are individually and collectively responsible for the loss of sight in an amazing number of cases. The poor eyesight of these unfortunates, imposes a distinct restriction of opportunities for successful careers. Likewise, the uncharitable comment and critical notice their affliction subjects them, is undoubtedly

the cause of many heartaches, sorrows and failures in life.

The family physician and the oculist are today, in accord, on the proposition that the time to treat a squint is when it is discovered, and that the earlier the case comes under treatment, the more hopeful the prognosis.

There are two chief reasons for treating a squint early: First and most important, to preserve and improve the vision in the squinting eye; second, for cosmetic reasons. The treatment resolves itself into non-surgical and surgical. The province of my paper permits merely an outline of the usual procedures. The non-surgical are: First, the correction of refractive errors; second, training of fusion sense, by occlusion bandage, atropine, use of stereoscope, amblyoscope, and other visual exercises. The surgical measures comprise advancements, tenotomies, single or combined.

Errors of refraction underlie the majority of squint cases in children and the proper fitting of glasses, which are not only usually well tolerated, but enjoyed by children as young as two and one-half years give surprising results and often render resort to surgical measures unnecessary.

TO RECAPITULATE.

1st. *Ocular Findings* are of distinct diagnostic and prognostic value in systemic diseases. The ocular manifestations observed in Nephritis, Diabetes, Loco-Motor Ataxia, Syphilis, and Rheumatism, amply warrant this conclusion.

2nd. *Foreign Bodies* in the cornea are frequently the source of serious disease of the eye. Infection may be introduced, and ulcer, with its grave consequences, develop. Antiseptic measures, in their removal, are to be strictly observed.

3rd. Iritis, Conjunctivitis, and Scleritis may be confused in Diagnosis. Care in distinguishing the distinct clinical manifestations of each will prevent the error.

4th. *Glaucoma* may be diagnosed as sick headache, persistent Neuralgia, Erysipelas, Influenza, or Toothache. In all such cases

the tension of the eye-ball is the correct guide.

5th. The use of Cocaine and Atropine is not free from danger. Toxic symptoms may be produced. Disastrous results to vision from the use of atropine may be produced if the contraindications are not observed.

6th. Squint in children should be treated early. The usual order of treatment followed is: First, correction of refractive errors; second, training of fusion sense; third, surgical measures.

Errors of refraction underlie the majority of cases and proper fitting of glasses may be all that is required.

100 State Street.

TREATMENT OF ACTINOMYCOSIS AND BLASTOMYCOSIS WITH COPPER SALTS*.

BY ARTHUR DEAN BEVAN, M. D.

I want to make a very brief preliminary report on the subject of the treatment of the cases of actinomycosis and incidentally blastomycosis with copper salts. I do this at this time because on account of the rather limited number of cases of actinomycosis and blastomycosis that comes to one man, I believe that collective statistics of a trial of this method of treatment will do more to give us early definite and positive knowledge of its value than can be obtained by limiting it simply to the treatment of the few cases that come to my service.

Last year we had a half a dozen cases of actinomycosis in my service, and since that time, at the Presbyterian Hospital, there have been a number of others, both in my service and in the service of Dr. Billings and other attending men. We have found, as others have, in connection with the treatment of actinomycosis that the iodide salts had very definite and very positive effects and we have been quite successful in curing circumscribed lesions, especially about the mouth and the tongue and the neck, with iodide of potash combined with the X-Ray,

using the iodide as has been emphasized by Dr. Ochsner in an intermittent way, that is, giving the iodide of potash for a period, then discontinuing it, and then giving it again. We have noted this fact, that although marked impressions were made by the iodide salts on all cases of actinomycosis, that nevertheless the cases of abdominal actinomycosis and of lung actinomycosis were fatal in a large percentage of instances. Probably seventy per cent of cases of abdominal actinomycosis are fatal, and probably ninety per cent of long actinomycosis are fatal in spite of the iodide treatment.

I want to say a word or two with reference to some of the cases which I reported last year. One abdominal case which I reported as greatly improved under the iodide, has since died with a very definite brain lesion. I have no doubt, although we were unable to obtain a post-mortem, that it was a ray fungus lesion of the brain. One of our lung cases, on the other hand, has made apparently a surprising recovery, and I want to make a statement in regard to that case. The patient whom I showed last year, and at that time we found ray fungi in the sputum, was treated for a long time with iodide, using as high as 100 grains a day, with distinct improvement. Later a lesion of the testicle developed, which was opened, and found to be a chronic abscess, but no ray fungi were found by the operator, who opened this accumulation of pus, although it is fair to presume that it was a ray fungus lesion. The iodide was discontinued in May. The man was poor and very anxious to support his family by returning to his work. After returning to his work, which brought him out in the fresh air most of the time, he improved steadily. A few days ago, when I saw him, we found no active evidence whatever of the process. In actinomycosis, as in tuberculosis and in many other lesions, a most important factor in overcoming the disease is undoubtedly the increased resisting power of the individual, and I think that factor should be considered in all of these cases. In spite of our iodide treatment, which has been so successful in local lesions, we have not been able to save most of our

*Before the Chicago Medical Society, October 25th 1905.

lung cases and our abdominal cases of actinomycosis. Because of that fact we have been looking out for some other method of treatment.

It is a well known fact that the ray fungus occurs normally as a rust on grain. Within the last few years there has been a good deal of work done by scientific agriculturalists with the use of copper in destroying parasites of vegetables. You are all familiar I have no doubt, with a number of articles that have appeared in scientific Journals and the lay press, showing the great destructive effect of copper in minute solutions in reservoirs of water, destroying the algae and low forms of vegetable life. The ordinary rusts on grain can be readily destroyed by minute solutions of copper sulphate. The sulphate seems to be the most powerful of the copper salts. It is a very destructive agent to vegetable parasites and is well born by animal organisms. My attention was called to these facts and inasmuch as the ray fungus occurs in nature as a rust on grain, I thought it might be worth while to experiment with copper as a treatment of ray fungus in the human being. We have done this now in several cases

I have one patient here tonight whom I desire to show. The history of this case is briefly this: It is a case of abdominal actinomycosis and as most of these cases are probably secondary to a ray fungus lesion, either of the appendix or of the cecum. The patient developed an enormous lesion which filled the entire pelvis. He was operated upon; and an abscess cavity opened, fistulae were found extending in all directions. The patient was placed upon large doses of iodide of potash, and in spite of this treatment suppuration continued to develop. About six weeks ago I placed him upon copper sulphate, using the sulphate of copper internally and as an irrigation. We began with one-quarter of a grain of copper sulphate, three times a day, then increased it to half a grain, and we have given some of our patients as high as one grain, three times a day. The irrigation is made with a one per cent solution of copper sulphate.

The French chemists (especially in con-

nection with the subject of the possibility of chronic poisoning from the use of copper as a dye in canned vegetables, peas, etc., etc.) have done much work to determine the toxicity of copper used internally for a considerable period, and have shown that copper sulphate can be used in doses of from two to eight grains a day, for six months at a time, without any deleterious effect to the individual. This was an important point to determine before making an extended trial of the salts. Copper occurs as a normal constituent in small amounts in the higher animal form, in some low animal forms as the oyster it occurs in large amounts. Copper is readily absorbed by the stomach and intestines.

The so-called brass poisoning, which has been extensively discussed, is not due to the copper apparently, but to some other elements which enter into the brass. In this same connection I might state that we have used copper salts in two cases of blastomycosis. It is now a well-established fact, (a suggestion which I made at the time of the report of the first case of blastomycosis in the West by Dr. Hyde, Dr. Hektoen and myself) that the iodide salts are curative in blastomycosis. The iodide of potash has a very powerful effect, used internally, on cases of blastomycosis. Many of these cases have been cured with iodide alone. For the superficial cases, the ordinary treatment of blastomycosis today is the combined use of the iodide and the X-Ray. Possibly, as has been shown by some experiments conducted by Professor Haines and myself, the X-Ray may produce a more powerful effect, or rather the iodide may produce a more powerful effect in combination with the X-Ray, because, as we have shown, free iodine is given off as a result of the action of the X-Ray on iodide solutions. It has been found, however, that some of these cases resist the X-Ray and the iodide treatment, and this is especially so with cases of general blastomycosis. I have been informed by Dr. Oliver Ormsby, who has seen so many of these cases of general blastomycosis that they have all been fatal in spite of the iodide

treatment. Therefore, we cannot consider the iodide as a successful means of treating general blastomycosis, no matter how successful it has been in the cutaneous cases combined with the X-Ray. Inasmuch as copper salts seem to have such an effect upon actinomycosis, I thought we might use it in blastomycosis, and we have employed it in several cases.

EXHIBITION OF CASES.

I want to show the effect of the copper salts in one case of quite extensive blastomycosis. This man came from a Western city, with extensive blastomycosis involving the entire dorsum of both hands, and we have been treating him with the copper salts. We have used the copper internally in one-quarter grain doses, three times a day, and later in half grain doses, three times a day, and are using the copper sulphate as a wash in one per cent solution. This right hand has almost entirely cleared up. It was a very serious, extensive lesion at first. The other hand is not quite as clean. There is still a lesion at one point which is suppurating, but there has been no extension, and very marked improvement under the copper treatment.

The next patient is the man whom we have treated with copper for actinomycosis of the abdomen. At the time the iodide was used we employed the X-Ray, and you will see a distinct coloring from the use of the X-Ray on the skin of the abdomen. There was a large mass filling almost the entire pelvis. We had repeated demonstrations of the pathology. The ray fungus could be found in the pus at almost any time. There was extensive infiltration of the recti muscles by the process; fistulae were developing at all times, and now this process has almost entirely cleared up under the copper treatment. The patient has gained twenty pounds in weight since the first of September (six weeks) under this treatment.

Now, I do not want to create an erroneous impression in regard to this treatment. We are simply experimenting with it, and I submit it to you with these results. I present

the treatment as one that seems to have a logical basis and seems to have produced marked curative effects. As I have stated, I think a collective experimentation on our cases of actinomycosis and blastomycosis should be undertaken in order to determine the value of copper as a cure for these conditions.

SEPTIC INFECTIONS ABOUT THE RECTUM.*

BY CHARLES J. DRUECK, M. D. CHICAGO.

In presenting this subject to you tonight, it is my desire to set clearly in your minds the clinical pathology and the principles of treatment of these collections when involving different pelvic structures, and to suggest, not only what should be attempted, but also what should not be done. The subject includes every collection of pus from a furuncle at the anal margin to the serious, diffuse, pelvic phlegmon, which involves not only the rectum, but any and perhaps all other pelvic and even abdominal organs. The exact origin of the infection in every instance cannot be demonstrated nor can it always be referred to the rectum. The treatment likewise varies so much that each form must be considered separately.

The rectum is surrounded with loose areolar tissue which is abundantly supplied with blood vessels and lymphatics, and which is easily and frequently infected or inflamed by extension from the rectum and anus, or by obstruction of the circulation. There is a continual variation of blood pressure in these tissues depending upon the condition of the bladder and rectum, whether full or empty, and even on the position of the abdominal organs. These alterations have a marked effect on the development of infection. The rectum is at all times the habitat of hordes of infections microorganisms, and the process of osmosis from the rectum certainly absorbs their toxins and doubtless at times the germs themselves pass through the rectal

*Read before Southern District Medical Society, June 15, 1905.

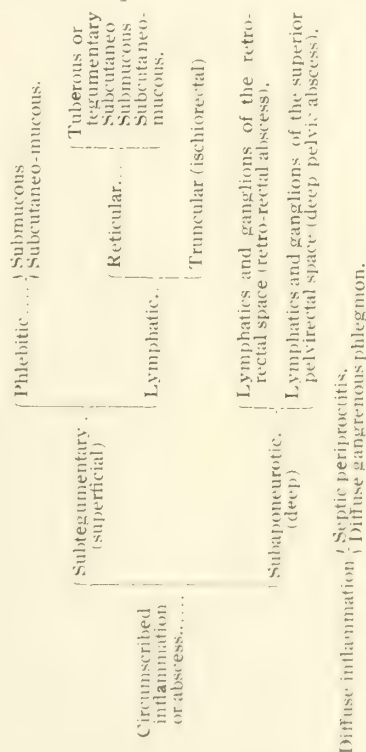
wall by way of the lymphatics. The inflammatory reaction caused by these infections may be diffuse or circumscribed and usually go on to abscess formation.

Perirectal abscess may be due to any one or more of several microorganisms, the most common of which is the tubercle bacillus. Koch says that tubercle bacilli are never found in the rectum, except when tubercular ulceration of the bowel exists, but Von Jaksch has demonstrated their presence in the stools of patients who did not have tuberculosis of the bowel. Simmons (quoted by Tuttle) has shown that the gastric juice, while it prevents the growth and development of tubercle bacilli, does not kill them and that when they pass into the alkaline intestinal juice they are still vital, showing that the bacilli may pass through the intestinal canal and effect the lower bowel or rectum without having gained a foot hold in the intestine proper. Perianal and perirectal tubercular abscesses are frequently found as the first evidence of infection when the patient does not show either then or later any pulmonary disease. To be sure, the infected discharges enter the alimentary canal very easily from tuberculosis of the nose, throat or respiratory tract. It is also possible that patients may be infected by rectal tips, bougies and instruments that have been used by tubercular subjects.

The bacillus coli is the next germ in point of frequency found in perirectal infections and seems to have an amoeboid power as soon as any injury to the epithelial layer of the mucous membrane permits it to escape from the intestine. Vaughn has carried out some interesting studies as to why this migration of the colon bacillus is not always followed by abscess formation. He states that each bacillus contains a capsule which contains the toxic principle and that this capsule is not dissolved or destroyed by the alkaline fluids of the intestine, but is broken by gastric juice, thus setting free the toxins. He further considers it possible that the blood serum also has this property. When the bacillus enters an area with engorged capillaries, the capsule is ruptured and the

toxins set free. Colon bacilli are occasionally found in pure culture in these abscesses, but are more frequently associated with staphylococci, streptococci or tubercle bacilli.

Naturally there must be a solution of continuity somewhere in the mucous membrane of the rectum or on the skin about the anus, admitting the infection to the deeper cellular tissues. The point of entrance, together with the nature and depths of the wound determine somewhat the location of the abscess, but the condition of the local lymphatic and capillary circulation and the variety of the invading microorganism is the chief factor. The classification of perianal and perirectal abscess by Quenu and Hartman is the most concise and complete and is as follows:



The diffuse forms of infection may develop as extensions from the superficial. Subaponeurotic abscesses are above the levator ani muscle.

There are three distinct systems of lymphatics about the rectum and anus and a study of these will give us some idea as to the direction the infection is likely to travel. Those lymphatics in the skin about the anus

called the middle hemorrhoidal lymphatics travel along the perineum toward the inguinal glands or else back behind the sacrum. The deeper lymphatics pass through the ischio-rectal space to the hypogastric ganglia and are called the superior hemorrhoidal system. It connects with vessels supplying a gluteal tissues through the ischiatic notch and obturator foramen. Those lymphatics around the deep rectum pass to the sacral and vertebral lymphatics.

Infectious toxins gathered up by any of these system may be followed along the chain. When the glands retain the poison and become inflamed, passage is blocked along that particular chain, but as the networks anastomose freely, not only with other branches of the same systems, but also with deeper systems, the infection may thus be carried along other channels. In this manner two or more distinct abscesses may develop. This intimate relationship of the various lymphatics explains the occasional development of abscesses quite a distance from the rectum, but following a very simple local operation. Tuttle, speaking of this, calls attention to the fact that injuries of the anal canal may be followed by abscess of the ischio-rectal fossa or in the cutaneous tissues of the buttock, while injuries deep in the rectum are likely to be followed by abscess in the retro-rectal space or deep in the thigh.

Marginal Abscess—Marginal abscesses arise at the anal margin and involve only the superficial tissues of the skin or mucous membrane. The infection may occur through a hair follicle or Liberkuhn gland, resulting simply in a furuncle, or by abrasions from coarse clothes, scratching, horse-back or bicycle riding, irritating toilet paper or discharges, either menstrual or diarrhoeal. These infections may vary in size from a little acne point to a pocket as large as a hazel nut. The lymphatics may carry the infection from this simple focus to other tissues and a larger area be involved, but the toxin is always carried in the superficial channels and never invades the ischio-rectal fossa or other deep tissues. This is a true follicular abscess and the symptoms corre-

spond with those of follicular abscess anywhere; a tingling, burning pain is followed by a swelling, which finally ruptures, when pus and sometimes necrotic tissue (core) escapes. Rarely such an abscess is deep-seated. The symptoms then are more severe and the whole picture resembles a carbuncle. Such a termination fortunately is unusual. These furuncles may be single or multiple and at times come in almost continuous crops until they make life a torment. Usually they do not invade the rectum and, therefore, do not interfere with defecation, but the patient cannot sit or walk and must take to his bed. Eczema, erythema and herpes all may be etiologic factors in these abscesses, Thrombotic hemorrhoids and other blood clots being near the surface, put the skin or mucous membrane on considerable tension and rupture the basis of glands and follicles, thus opening the skin. Also, any pyogenic organisms circulating in the blood are likely to be deposited on this broken vessel and clot. There is usually some temperature, but no systemic complications. Although this region is so richly supplied with lymphatics, both superficial and deep, the walls of the follicle prevent invasion of the deeper tissues and the abscess ruptures upon the surface of the skin or mucous membrane and heals without fistula, although in weak or tuberculous subjects a sinus sometimes occurs.

Treatment—The treatment of the marginal abscess differs radically from that of deeper forms in that, incision and drainage is frequently followed by untoward complications. In a few instances where the patient has learned by experience the course these infections run, he may apply early for treatment, and if he is seen before suppuration has actually developed, the colon should be thoroughly flushed out, the bowel constipated with opium, and he be kept in bed on a restricted absorbable diet, and with ice bags at the anus. The area of local inflammation for three or four inches around should be painted with pure Ichthyol two or three times daily. Succeeding applications should be put on without washing off what

is left of the Ichthyol. Very good results have been claimed by injecting 95 per cent carbolic acid or a strong salicylic acid solution directly into the follicle, if the case is seen early. Where there is a tendency to recurrent crops, Hartman (Tuttle) recommends a 10 per cent salicylic acid in glycerin to be applied by the patient whenever he notices any pain or soreness. The importance of local cleanliness must be impressed upon the patient, and after each defecation the parts should be bathed with a mild antiseptic solution. The only time these purely skin abscess should be incised is when a collection of pus may be evacuated by a simple puncture with a bistoury and the cavity filled with Ichthyol. Deeper and wider incision is prone to open the subcutaneous tissue to infection where nature has walled them off. The X-Ray seems to promise a great deal for those cases of continually recurring crops of furuncles, but what I have seen is as yet so recent that it does not justify an enthusiastic report. However at a future meeting I expect to report my results.

Subtegumentary or Perineal Abscess—Abscess beneath the perineal skin or beneath the mucous membrane of the rectum are common complications of lesions of these parts. They are practically always secondary to some other disturbances and result from infection of the lymphatics, although the abrasion of the skin or mucous membrane cannot always be found. The infection in being carried off results in either a breaking down of a gland or thrombosis of the lymph canal and thus circumscribes the abscess. These abscesses occur most frequently in hearty, robust men, seldom in women or old people and almost never in children, except the tubercular abscesses which occur very frequently in little ones four to six years old. Cutaneous hemorrhoids (the remnants of former thrombi) are always liable to recurrent inflammation and infection. The injection of hemorrhoids with carbolic acid is quite frequently followed by this form of abscess. Quenu considers these abscesses, a lymphangitis, the result of infection carried by these vessels from the rectum. The in-

flammation is diffuse and lies beneath the skin and constitutes a subcutaneo-mucous abscess, or if within the rectum a submucous abscess.

Symptoms—The symptoms of this form of abscess vary. It may develop without any systemic involvement, no chill and very little fever or pain. The abscess opens early and exudes a thin watery pus. Examination shows a small ulcerated opening on the skin or through the mucous membrane into the rectum. The tissues are undermined with a soft, boggy mass all around the opening and sometimes this burrowing is quite extensive, particularly up between the rectal coats where it frequently forms fistulous openings into the rectum. Considerable burrowing may occur before any opening occurs. With all this breaking down beneath the surface there is usually very little inflammatory reaction in the skin. In other instances there is marked systemic reaction, a sharp chill with rapid pulse, fever and general malaise. The local symptoms develop less suddenly with a feeling of fullness and indistinct soreness which gradually localizes and becomes sharply painful. Examination shows all the signs of infection, a tumor to one side of the rectum, which is hot, red or violet in color, tender and throbbing. Cases with such an onset showing such severe systemic invasion are nearly always due to septic microorganisms and frequently a mixture of the streptococci and colon bacilli. The tubercle bacilli develop cold abscesses. The location of the abscess somewhat determines the severity of the pain. Abscesses situated near the anus where there is considerable loose areolar tissue which is easily distended are much less painful than those situated higher up where the various structures are firmly bound by the muscles and fasciæ. The sphincter is also usually excited and its spasm increases the pain. When the abscess develops above the sphincter it may point into the lumen of the rectum and present no external appearance. Digital examination, however, will demonstrate a globular mass indurated or fluctuating according to the extent of the development.

The natural course of these abscesses is to rupture spontaneously. If it ruptures upon the skin, the result is a blind external fistula; if within the rectal or anal canal, a blind internal fistula, or if both upon the skin and into the rectum, a complete fistula results. Very frequently in low-seated abscesses the internal opening will be found just within the anus. The distinguishing feature about these abscesses is that they do not drain and heal like abscesses elsewhere, but continue to remain as sinuses. No satisfactory explanation of this has ever been offered, but the fact remains. When the abscess develops between the layers of the rectal wall it is called intramural. Its constitutional symptoms are slight, usually a sense of heaviness in the rectum, painful defecation and sometimes retention of urine. All these symptoms occur with inflamed, internal hemorrhoids and without a careful examination an erroneous diagnosis may be made. Digital examination shows local tenderness, swelling and perhaps fluctuation. Bimanual palpation with one finger in the rectum and counter pressure on the perineum will be of much value in early diagnosis.

Treatment—Just as I impressed upon you the importance of therapeutic measures in the marginal abscess, so now I wish to emphasize the fact that the deep abscess, except where malignant disease or syphilis complicate, does not respond to anything except surgical treatment. Therapeutics are a waste of valuable time. Local anaesthesia may be used in many of the early cases and by first touching a spot on the skin with pure carbolic acid on a probe or by firmly pinching the skin between two fingers for a few minutes, sensation is destroyed enough to introduce the hypodermic needle to infiltrate with cocaine solution. The incision should be free and radiate from the anus across the full length of the abscess. Diverticuli in the acute abscesses will usually drain well through the main cavity and need no lateral incisions. All septi between the diverticuli and the main cavity must however be thoroughly broken down, making one large wound. The object of this is to obtain free

drainage. If the cavity is large, it is well to fasten the drainage tube in place for a few days and after that to use a gauze drain. The cavity should be thoroughly flushed out once or twice a day with normal salt or a mild antiseptic solution. In the intramural variety and in any instance where the incision has been carried through the sphincter, it is necessary to dilate the anal canal or at least the anus sufficient to open and cleanse the whole wound. The intramural abscess being between the mucosa and the musculature of the rectum must be opened from within the anus. Dissection through the external wound up alongside the rectum is not followed with good results. The important part is to carry the incision wide enough to leave no possibility of a pocket at the lower end of the wound, a condition similar to what occurs when the abscess opens spontaneously. Rest in bed is essential to rapid recovery, and, while most of these cases get well, if properly treated after the operation, even if allowed to be about, yet they get along quicker and more satisfactorily if kept recumbent.

Ischio-Rectal Abscess—All perirectal abscesses are called ischio-rectal by some physicians, but Etchepare (Tuttle) has found that less than eighteen per cent are situated in the ischio-rectal fossæ. These abscesses develop outside of the rectum and beneath the skin and fasciæ. They may be single or multiple, and when more than one, they may connect, usually behind the rectum through the space between the levator ani and the external sphincters. Even when they develop on one side of the rectum and open either spontaneously or have existed several days, a second abscess frequently develops on the opposite side. The fossæ in which these abscesses develop are filled with fat, and as the pus fills the acini, the fat is displaced, but the connective tissue reticulum remains and the abscess is honeycombed in form. It is essential in operating to break down these pockets, as otherwise the contained pus will burrow and infect new areas. There seems to be no limit to the extent to which these abscesses will travel. Frequently an abscess

occurring on one side will burrow to the opposite, usually behind the rectum, and form a horseshoe or dumbbell-shaped cavity, which gives the abscess its name. Infection may, however be carried up through the fossæ on both sides and two abscesses develop from one source. This process usually goes on faster on one side than the other and one abscess may appear several days before the other. Such abscesses may not communicate with each other.

Etiology—Perirectal abscesses always result from infection which is due to one or more of the following causes, namely: injuries by foreign bodies, either through the rectal wall or through the tissues of the buttock; ulceration or perforation of the rectum fissure or wounds at the anus, and very frequently minor operations as for hemorrhoids. Fistula or stricture are followed by abscesses, also squeezing superficial furuncles probably by forcing pus out into the surrounding tissues and sometimes kicks or bruises may be the cause. Where an abscess has existed for several days prior to evacuation, a certain amount of adenitis necessarily develops in the surrounding lymph glands and these glands may subsequently give rise to another abscess. Microorganisms in these glands may remain virulent indefinitely. I will quote a case that was referred to me by Dr. Watts, which shows this condition. About 1894, Mrs. A. suffered with an abscess and resulting fistula, was operated upon and cured as far as she knew, and remained well for ten years, until June, 1904. At that time she developed a second abscess in the same ischial fossa. The abscess had existed several days when I operated upon it June 30, 1904, and removed about a pint of very foul pus and necrotic tissue. The case was treated along lines laid down later in this article and she made an uneventful recovery, the wound completely closed. In March, 1905, she developed a third abscess in this same location and about the same amount of pus and debris removed. I examined her on May 15, 1905, and found everything apparently sound. No tenderness anywhere (except, of course, on the new cicatrix). No tenderness

on either vaginal or rectal examination. This woman has never been pregnant. The uterus is small, but in good position and movable and no evidence of any pelvic inflammation. The bowels have always been regular and the sphincters are normal in tone. No history of tuberculosis or syphilis. I believe this is a case of lymphadenitis, although none of the glands are palpable, and in making my prognosis, I told this woman that I feared that she might have a recurrence of the trouble.

Symptoms—As a rule, ischio-rectal abscesses develop acutely with some constitutional reaction, which in some instances is very serious. Locally, there is a vague feeling of soreness within the rectum which increases gradually to a dull ache and later a throbbing pain. Externally, there may be no signs at all if the infection is deeply seated, but if near the surface the signs of abscess will be seen; such as, red or violet discoloration and swelling. A finger introduced into the rectum and pressed out and down will usually appreciate a circumscribed mass of induration or fluctuation. Defecation is extremely painful and dysuria may occur. In aggravated cases the swelling, tension, edema and redness about the anus appear erysipelatous and a microscopical examination of the blood and excretions is necessary to differentiate such an abscess from true erysipelas. Sometimes the inflammatory reaction, not only surrounds the anus, but involves the scrotum, perineum and thighs, but such is an extreme case. When these abscesses are opened the pus is thick and creamy, unless there has been extravasation of blood, when it may be brownish, and a clot may be expelled enmasse or as debris. Shreds of necrotic tissue are frequently seen in the pus and indicate a septicæmic character of the infection. The odor is foul and gangrenous, even though the abscess does not communicate with the rectum. The gush of gas when the abscess is opened is due to the pent up condition and does not come from within the rectum. These gases are the result of bacterial life within the abscess. When the abscess is opened, either spontaneously or by the knife, the constitu-

tional symptoms immediately subside and often within twenty-four hours will have disappeared, but unless drainage is complete, another abscess will form and the whole chain of symptoms recur. This quite occasionally occurs if all the compartments are not broken down during the operation.

In regard to the differential diagnosis, it must be remembered that hemorrhage into the connective tissue resulting in a hematoma may produce all of the symptoms of abscess. Of course, unless infection occurs there will be little rise of temperature, and no systemic reaction.

Treatment—Free incision at the earliest moment is the only treatment for these cases. Local applications have been discarded by all surgeons as useless, because, while they give temporary relief and may retard the progress somewhat, yet they never abort or prevent suppuration. We must never wait for fluctuation but drain freely whenever we find well defined induration, unless we think it is syphilitic. The wound should be wide enough to expose the whole field, thus permitting the operator to see what he is doing and allow free and easy drainage. Unless the surface wound is larger than the widest part of the abscess, pockets will form and the pus begin burrowing. After the abscess is opened, the finger should be introduced, and all partitions and bands broken, thus opening all pockets. Curretage is not advised because the steel spoon affords no knowledge of the condition of the walls, while the educated finger distinguishes necrotic from the normal connective tissue. The curette may go beyond and carry infection into healthy parts. The cavity should now be thoroughly irrigated with 1:2000 bichloride, and if there is considerable oozing or bleeding the cavity may be firmly packed for 12 to 24 hours. At the end of that time, the packing, if used, should be removed and a large rubber drainage tube introduced and retained. It is of the utmost importance that the walls of the cavity be kept apart and free drainage allowed. When both ischio-rectal fossæ are involved the surgeon's ingenuity is often taxed because the posterior connecting tract must

be drained. To incise both cavities and also the posterior, connecting sinus would produce an infundibular anus. Hartmann opens the posterior cavity widely and inserts a drain into each lateral pocket. In a case of my own, I made a somewhat curved incision exposing the whole posterior connecting tract and put a large drainage tube into either side. Although wide undermining and dissection is made of the loose, connective tissue there is little danger of incontinence resulting. The more common complication is that the resulting scars become so depressed about the anus that fecal matter is frequently lodged and it is difficult to keep the parts clean. Many of these abscesses rupture spontaneously into the rectum and form internal, blind fistula. Even where the abscess has been opened surgically, it is found clinically that a portion of them rupture into the rectum subsequently, but it is not good surgery to make an opening into the bowel because of the dangers of incontinence and the prolonged convalescence which such action entails. Doubtless many of the ruptures into the rectum subsequent to operation upon the abscess are due to some oversight in breaking down all the trabeculæ. Every operation for abscess must include a thorough dilatation of the sphincters to prevent any subsequent spasm of the sphincter and rectal wall. The dilatation also permits the free egress of gas and thereby adds much to the comfort of the patient. It also prevents any collection of feces in the rectal pouch, which might cause undue pressure on the thin wall. Of course, the dilatation should be done after the abscess has been evacuated, because, if previously performed, it would increase the danger of breaking the already thinned wall. Then again, the pressure and traumatism might squeeze pus out into new areas or dislodge thrombi and thus produce septicemia in remote parts. The dressings, other than the packing in the wound above mentioned, consists of a large, loose perineal and anal dressing. I never use tubes or anything else within the rectum.

Retro-Rectal Abscess—These abscesses de-

velop in the cellular tissues between the rectum and sacrum and above the levator ani and may result from necrosis of any of the large bones of the pelvis or from perforation of the rectum by a foreign body (bougie or syringe tip) or more frequently, following posterior proctotomy for stricture when there has been imperfect drainage. It may also occasionally occur as an extension through the lymphatics from old fistula tracts, the breaking down of tubercular nodules or gumatta or ulceration within the rectum. Appendicular abscesses have been found here, but such a course is very rare. Retrorectal infection frequently follows ischiorectal abscess and after resection of the rectum.

Symptoms—The symptoms are at first vague and indistinct; there are no rigors, a dull back or sacral ache and heaviness in the pelvis and sciatic pain may be the only symptoms. There may or may not be painful defecation. Usually there are signs of pus formation, i. e., temperature, malaise and a sallow complexion. External palpation about the anus and perineum is negative, digital examination within the rectum, however, demonstrates a circumscribed induration back of the rectum or later as pus forms and tension increases, the mass becomes painful, fluctuates and obstructs evacuations. Retention of urine may also occur. The abscess may break into the rectum or it may burrow through the levator ani, either separating or rupturing its fibers, and opens into the ischiorectal fossa and finally out into the skin. A retrorectal abscess in bursting through the rectum may burrow considerable distance between the coats of the bowel and appear as an intramural abscess. (Quenu and Hartmann, p. 146).

Treatment—A large, crescent-shaped incision between the anus and coccyx affords the most thorough drainage. Where the walls of the abscess are well defined and covered with necrotic tissue it may be well to curette, but it is always accompanied with danger as spoken of before. After thoroughly flushing out the cavity a large drainage tube should be introduced and sutured to the skin and the sphincter dilated the same

as in ischiorectal abscess. Packing the wound prevents drainage and should be avoided after the first dressing when, however, it may be necessary on account of hemorrhage. Tonics, good food and plenty of fresh air are the prime requirements, as these patients all need building up. The patient should be kept in his bed or on his feet during the whole convalescence and not allowed to sit down, as that position compresses the edges of the wound and prevents drainage.

Superior Pelvirectal Abscess—These abscesses arise generally from disturbances of the genito-urinary or pelvic organs or even abdominal organs. The levator ani muscle forms a physiological roof of the lower pelvis and abscesses originating below this muscle empty, either into the rectum or upon the skin, and, while they may cause severe local and even some general systemic disturbance, they are only rarely fatal. Above the levator ani is the peritoneal cavity, and infection here furnishes a different story. Large quantities of pus may collect and burrow into the bladder, vagina, high up in the rectum, the sigmoid or out of the pelvis into the groin, but very rarely does it burrow through the perineum. With the enormous development of such a pus cavity enough pressure is exerted upon the bowel or urinary tract to produce mechanical obstruction. Such an abscess may be due to any of the causes of ischiorectal abscess, appendicitis, necrosis of the bones of the pelvis or spine, prostatitis, or ovarian disease.

Diffuse Septic Periproctitis—This is a form of rectal infection that belongs to the preaseptic era and which is never found today except where gross carelessness has occurred or following an injury that has been neglected. The local findings are acute inflammation about the anus and in the ischiorectal and retrorectal spaces and is very virulent. It may appear a few hours after the injury or not for several days and may extend to other tissues until it entirely surrounds the rectum and may even extend to the peritoneum.

Symptoms—The onset is insidious and the signs of systemic invasion come on slowly.

Pain is felt in and about the rectum and gradually increases until it becomes intense and is accompanied by a feeling of fullness and weight about the sacrum and coccyx. If the attack follow upon an open wound or an operation, the discharges change to a mixture of blood and pus and are very foetid, and the whole area is acutely inflamed, edematous and swollen. The patient is rapidly exhausted and often a sharp diarrhoea sets in. Difficulty of urination or even retention may occur. Vomiting is common and there may be complete loss of appetite. Septic foci may develop in other organs, such as heart or pericardium and precipitate the end. The whole picture resembles that of puerperal fever, and if allowed to run its course, death results usually within two weeks.

Treatment—The treatment is one of prevention. Diffuse periproctitis should never occur in operative wounds and the precaution lies in asepsis with free drainage when operating. Proctotomy for stricture and resection of the rectum are the operations most likely to cause trouble. If in the course of treatment the disease should occur, its remedy lies in bold free incision of the inflamed tissues to allow easy drainage and frequent irrigation with sterile water or saline solution. Hot boric dressings are also to be used when possible; in other words, such attention as will assist the circulation and prevent gangrene.

In resume then, you will see that it is very important to determine exactly which structures are involved in the infection before we decide as to the treatment. While certain cases respond quickly to very mild therapeutic measures, others will require heroic and ingenious surgery. Everything considered, the surgeon with the broadest conception of the case and the greatest resourcefulness will attain the best results. I leave the subject in the hope that I have demonstrated the different life histories of these pus collections and that this paper may have cleared up a perhaps doubtful point in your mind.

ACUTE URINARY RETENTION—ITS TREATMENT, MEDICAL AND SURGICAL.*

BY VICTOR D. LESPINASSE, M. D.

Instructor Genito Urinary Surgery Northwestern University Medical School, Member American Urological Association, and Chicago Urological Society.

In discussing this subject this evening I will eliminate all the rare causes of urinary obstruction, as urethral valves, tumors, stones, pedunculated bladder growths, vesical calculus, marked phimosis and imperforate urethra and consider only the most common causes of urinary retention: namely urethral stricture, prostatic hypertrophy, post operative retention and traumatic rupture of the urethra.

Always the first step in a consideration of treatment is the prophylaxis of the condition under discussion. If our stricture patients would lead model lives from a moral and physical standpoint and see their physician about once a month for the gentle introduction of a large double taper steel sound, the cases of acute urinary retention from stricture would be almost eliminated from our records. But in the nature of things this is not possible as the class of individuals who have these troubles is largely composed of men who will tolerate no restraint and indulge themselves until they absolutely have to stop, but nevertheless we should advise one and all of them to observe regular habits, avoid liquor in any and all its forms, avoid cold and exposure and excesses of all sorts and to select a competent physician and go to him once a month or once in two months and have a sound passed. Thus assuring urethral health. The prophylaxis of prostatic disease is not so easily and quickly disposed of, as this is a disease that attacks all manner of men, irrespective of their previous manner of living and former urinary diseases, hence no particular line of conduct can avoid it as far as we know now, but after its inception for his own best interest our patient's whole life

*Read before Southwest Section Chicago Medical Society October 3, 1905.

must rotate with the prostate as its pivot. All the rules applicable to stricture cases must be observed by him, with this addition, it being possible to permanently relieve him by a radical operation, hence do not temporize too long with minor surgical procedures before telling him of the advantages and dangers of major surgery. In the post operative cases the first and best method of prophylaxis is to secure a first-class physician; he will keep patients away from surgery as much as possible, but where they need the services of a surgeon, will select one for them who has technical skill of a high degree and operates rapidly, cleanly, neatly, and by previous thought and preparedness, avoids all delays, waiting for various materials, dull instruments, etc. This class of work is followed by little shock, slight post operative discomfort and urinary retention is rarely seen. The Traumatic cases are all caused by accidents, hence a practical prophylaxis here is impossible; avoid walking fences, climbing trees, falling through hay holes, runaways, etc.

Post Operative Retention—Now we have before us a young man who was operated upon for acute appendicitis, or more frequently hæmorrhoids, and since the operation, now twenty-four hours, he has been unable to urinate. Of course, the first thing to do, unless in our opinion the operation performed will not permit it, is to sit him upright in bed or even to place him in a hot sitz bath; if this fails, try the aid of gentle hypogastric pressure, patient at the same time trying to urinate, next turn on the water in the room and arrange so it splashes and makes considerable noise, or if there is no running water handy pour some from a pitcher into a basin or place a basin at the bedside tell the patient to hold his hand over it and then pour a small stream on his hands, or follow the same method, replacing the hand by the glans penis; all these failing, insert the index finger in the rectum and manipulate the prostatic urethra; do not massage the prostate as you do for therapeutic effect, but simply vibrate your finger over the prostatic urethra, starting up as high as you can

reach and coming down to the prostatic apex. While doing this have a little stream of water playing on the glans penis. If all this fails our patient must be catheterized, and in doing this use a soft rubber catheter about 18 F size, surgical cleanliness and the utmost gentleness.

Stricture Retention—The acute retention of stricture is usually not relieved as easily and simply as the post operative variety. Let us digress for a moment and consider a few points in pathology germane to the subject under discussion. What are the conditions which actually cause the urinary stoppage?

There are three, namely: Irritation, congestion and spasm, and are grouped, being called by various names, as plus conditions, determinative conditions. Their pathogenesis is simple and as follows: We have a strictured urethra, the hard submucous infiltrate projects into the urethral lumen because of its lessened elasticity, hence the urinary stream strikes it so traumatizing it more than the normal wall, causing congestion. If the urine is particularly irritating as after a spree, the ingestion of spices or anesthesia it will cause a still greater congestion and irritation with its concomitant swelling at the strictured point and the swelling causing further projection into the urethral lumen causes greater trauma and greater trauma greater pain; greater pain more spasm, and more spasm obstruction, and thus the sum total of this cycle; irritation congestion, swelling, pain, and spasm is complete obstruction; retention. All attempts at urination only increase the traumatism to the stricture and hence close the lumen tighter; all rough and unskillful attempts at relief accomplishes the same result only in a higher degree. To treat this patient now may be very simple or it may require all the skill possible in surgical art. First get him into a hot bath 105-110 F., and take the edge of his pain by a hypo of Gr. $\frac{1}{8}$ or $\frac{1}{4}$ morphine, remembering that in these conditions the kidneys are suffering from back pressure and elimination is slow, so be careful in repeating it. Next follow out all the maneuvers outlined under operative reten-

tion up to and including a gentle catheterization with at least an 18 F. soft rubber catheter preceded by an injection of olive oil. These failing, inject the urethra with a $\frac{1}{2}$ -1 per cent cocaine sol., with 1:1000 adrenalin in it, or by using a urethral syringe, or by means of the urethrocope and an applicator, apply a few drops of the adrenalin right on the face of the stricture or probably better the adrenalin ointment. After waiting a few moments for the medication to act, try to catheterize with a soft rubber catheter gently and slowly, do not persist too long or traumatize much. Failing, fill the urethra with sterile olive oil and pass from three to six filiforms, preferably ones with a screw tip, so they can be attached to a sound or catheter; now by alternately advancing and with drawing them first, one till it is obstructed, then another, till finally all the pockets and folds are filled, and the next one will find and engage the stricture; now if your filiform has a screw tip, screw on your catheter and slowly insert it into the bladder. If it has no screw tip, pass a tunnelled sound over it into the bladder; in doing this always have the filiform moving out as the sound is inserted; if this is neglected, you may nip off a piece of the filiform and have to remove it with the operating cystoscope. If the stricture is so small and hard that it is impossible to pass the tunnelled sound over the filiform, just leave the filiform in place. The pressure of the instrument causes an absorption of a portion of the obstruction and soon the urine will trickle out slowly alongside the instrument. If you have difficulty in passing the filiform, fill the urethra with oil, compress it at the glans and then slowly pass the finger tip toward the scrotum, maintaining the compression all the time; when you have distended the urethra considerably, stop, maintain your finger in place, and now manipulate the filiforms; by this maneuver you distend the urethra and this tends to pull the stricture open somewhat and obliterates a great many, if not all, of the folds and pockets. Another method of inserting the filiform is by means of the urethrocope, which is passed down to the

face of the stricture, its orifice located, and the filiform passed with the eye as a guide. This is an excellent method and is of great value in a complicated case. Another manipulation is with a urethral speculum, the ends of whose blades separate widely, while their bases do not; insert the instrument into the canal to the stricture and then separate the blades gently, looking in all the time; this will tend to separate the edges of the stricture enlarging it; then, under the eye, pass the filiform through into the bladder. In all urethral instrumentation dealing with stricture aim to keep the tip of your instruments on the urethral roof; this is the most fixed portion of the canal, has fewer folds and rugæ, and usually the stricture is formed by infiltrates in the floor, and its orifice is closer to the roof than to the floor. All these methods failing, we have two others at our command, namely: Supra pubic Puncture and external urethrotomy.

Supra Public Puncture—This is a much-neglected procedure; properly used and performed it is a very valuable one.

The only instrument necessary is an aspirating needle or preferably a trocar. After careful examination by all means in our power we determine that this particular abdominal tumor is a distended bladder by the following symptoms and signs: Tumor rises out of the pelvis in the median line, fluctuates, pressure on it, gives sensation of a desire to urinate, is dull of percussion and does not change with position. The technique is simply surgical cleanliness for patient, operator and instruments as for any clean surgical procedure.

By a quick thrust in the median line and a short distance above the symphysis you enter the bladder; withdraw the obturator and urine flows; do not drain the bladder rapidly, but take from $\frac{1}{4}$ to 1 hour to do it. This frequently breaks the vicious cycle of trauma swelling, spasm and obstruction by removing the trauma of efforts at urination, and so the swelling and spasms disappear and our patient can urinate freely or up to the absolute size of his stricture. External Urethrotomy is to be performed to relieve urinary reten-

tion when all other means fail. Its technique without a guide is difficult and should only be done by a competent surgeon, as short anesthesia, rapid operation and proper armamentarium is here a *sine qua non* for success, and on them depend the failure or success of the individual case.

Prostatic Cases—In the urinary retention, due to hypertrophy of the prostate there is no stricture present in the sense of narrowing of the urethra. The condition causing the obstruction is a distortion of the urethra by the growths in the prostate. Hence a large instrument is much more likely to pass than a small one, and filiforms have a very small place in prostatic obstruction. When confronted with a case of acute retention, due to prostatic obstruction, every procedure, as mentioned under post operative retention, should be tried up and including catheterization with a soft rubber instrument. All these failing, use some or all of the following special prostatic instruments and techniques:

Mercier Coude Bicoude.

Long Curve Catheters.

Flat Catheter Laterally.

All these failing, supra pubic puncture is in order to tide over this particular congestive spell, or if the obstruction continues, a drainage of some sort, either perineal or supra pubic, to be followed later by a prostatectomy.

Traumatic Retention—Here intro urethral manipulations should be very gentle, very clean and even then very brief; do not persist in attempts at catheterizing, but incise your patient's perineum down to the urethra at least; there is no particular necessity of getting into the bladder as in an organic stricture case; just let the blood urine and debris drain and patient will urinate freely in a short time, as the pressure on the urethra will be relieved.

THE X-RAYS IN MEDICINE AND SURGERY.

So much has been said as to the use of the Rays, so many able and scientific expositions and demonstrations have been given, that

it seems hardly proper for a tyro in this line of work to take up your time with anything on the subject. However, we thought it possible to say something that may be suggestive and beneficial on a subject, whose scope and remarkable efficiency is but just beginning to be appreciated by the profession at large.

How far the discovery and introduction of the Rays and kindred therapeutic measures have opened up new avenues of knowledge and developed means of combating and aids in the solution of the hitherto medical and surgical riddles, it is now not possible to say. We believe that their use and efficiency are just beginning to obtain and that constant and steady progress will continue to be made in the range, technique and details of their use.

Today the Rays are developed by means of the static and coil machines, and the question as to the better producer is still sub judice. In the general practitioners office, for several reasons, it is not always possible to have and to maintain both static and coil. While the coil machine is always in working order and very largely free from any atmospheric effect, yet for ordinary and the general run of therapeutic and diagnostic uses a static machine with from 10 to 15 revolving and an equal number of stationary plates, will develop Rays sufficiently rich and penetrating for satisfactory work. The rays so developed seem more tractable and less liable to cause untoward results, especially in the hands of the less experienced worker than those from the coil. Whichever means are used one must make careful and tentative use of the Rays in every case, regulating their richness, distance and length of application, and never lose sight of the variant susceptibility and idiosyncrasy of the individual person and his tissues to the effects of the rays. Today there is less excuse and occasion for burns and untoward results, since, by the use of lead foil masks, of shields for the tubes, and protective screens for the patients, unfortunate results are less and less frequently obtained. It is also well to bear in mind that the rays

have a cumulative action, as it were, and hence that their use and dosage calls for constant thought and attention. Bad results may not obtain or be in evidence until months after the radiation is used. Through the experience of others and that self-acquired the dermatites, burns, ulcerations, sloughs, loss of the nails of fingers, and even of fingers and hands, and the development of malignancy of X-Ray lesions are fast becoming things of past experience. However, it is well to have in mind their possible appearance and that at the most unexpected times, and frankly to state to patients such a possibility before beginning treatments.

Now as to the tissues which are most susceptible to the stimulation and histologic and pathologic alterations of the Rays? More than all else do we find them acting upon the tissues and structures arising from the epiblast—the integument, hair, nails, and also upon the cellular elements of all tissues reached by the Rays. The epidermis is influenced in quite a remarkable way. There is an increase in all its layers, particularly the mucous, increase in the amount of pigment and keratohyaline and karyokynetic processes, thus showing a stimulation of cell division and production. While there results a thickening of the epidermis there is also a process of atrophy of the hair follicles, of the glandular elements of the skin, and of all the differentiated parts thereof, while the less differentiated parts are stimulated and vitalized. In the development of its action on the skin there is then the capillary dilatation, the diapedesis of the red cells, the bronzing, and the collection of round cells in the corium, particularly about the hair follicles. Because of the selective action on the hair follicles the Rays are of great utility in the treatment of the sycoses and various tineas.

We do not know that the Rays are germicidal, save in so far as they seem to cause an increased karyokynetic action of the bacteria, such stimulation causing them to multiply from a virulent to a less virulent condition, and the process continues until they reach the extremest X-potency of innocuity.

No offense is intended to our brothers of the high potencies. With this action phagocytosis continues and the cellular and other structures of the tissues are stimulated and developed, and thus find themselves better able to cope with and overcome the invaders.

The great benefit and frequent cures of lupus by radiation has been attested and reported by many operators, and it was along this line that the first and greatest successes were attained, thereby inciting the investigation in other directions and lines and pressing the good results that have followed. In my own practice was a case of lupus vulgaris of the nose and alæ, extending from the nasal bones, involving the entire organ and extending down onto the cheeks. This was of long standing, about nine years, but after 23 treatments given at intervals of three or four days, the lesion was covered over by the intact, whitish, characteristic lupus cicatrix. Another case was very much benefited after seven treatments, the patient removing from the city the treatments were then discontinued. The opinion of the best observers and workers is that lupus vulgaris is very amenable to the curative effects of the Rays, and that the results are equal even to those obtained by means of the Finsen lamp. In the treatment of rodent ulcer many cures have resulted, and the radiation therapy promises the best of any treatment. In the epitheliomata of cutaneous origin and location, especially when situated on the face, other than on the lips, the results have been excellent. We have seen complete cure of such with no recurrence and with but slight cicatrices. When the epithelial growth has invaded the deeper structures with metastases here and there, the Rays should be used only after resort to the knife is had. After the removal of carcinomatous tumors great benefit frequently follows their use as a prophylactic treatment. The anodyne effects of the Rays should be made larger use of. In inoperable cases of malignancy, where there is much pain, requiring the almost constant use of opiates, great relief will

follow radiation, and morphine may be withdrawn nearly altogether. In overcoming the offensive discharges of such lesions the Rays will be found efficacious, thus relieving the pain and obviating the necessity for frequent dressings—always disagreeable and unpleasant duties.

The dermatologist has benefited by the use of the Rays in the treatment of various chronic eczemas; in acnes which have resisted the routine treatment excellent results are frequently secured. The atrophic effect of the rays is made use of in cases of obstinate local hyperidrosis, and where there is undue activity of both the sebaceous and sweat glands. The parasitic sycoses and tineas are peculiarly successfully treated. In the various pigmented and vascular *nævi* much good has been done, and the future is bright with promise for their successful treatment. The X-Rays are not a panacea for all the cutaneous ills and disfigurements of the human form divine, and yet they have been used for almost every morbid manifestation of local origin and neurosis, with oftentimes good results.

Tuberculosis of the joints, tubercular arthritis, has yielded to the use of the Rays. In the enlarged glands, due to the tubercle infection, many report complete cures and subsidence of all objective signs and symptoms. The tentative use of radiation in Hodgkin's disease and leucocythæmia has not been so frequently tried and the results therein are variable.

We believe that there are many affections where deep penetration and stimulation of the cellular and intracellular structures can be produced with good results. By its use unhealthy, sluggish granulating surfaces can be converted into a vigorous healthful appearance, and tubercular and patent sinuses may be by this means filled in and closed. Favorable reports are given of its use in varicose ulcers. In a case now under observation and treatment the Rays have stimulated the production of healthful granulation tissue, causing the necrotic and poorly nourished tissues to be separated and thrown off. We trust that a permanent cure

will result and that the ulcer may be filled in and closed over by tissue of sufficient vitality to resist the mechanical effects of the venous stasis.

Among the various instruments of precision and diagnostic aid the use of the Rays ranks among the first. For the location of calculi in the ureters, gall bladder and bladder, there is no aid to take their place. By their use aneurisms, intra-thoracic growths, mediastinal abscesses and tumors are brought into view. Cavity formation in the lungs, and the various ptoses of the contents of the abdominal cavity are thus clearly delineated.

In the art and practice of dentistry the Rays are of use in orthodontia; disclosing the position and shape of un-erupted teeth, and in the failure to erupt the full number the presence or absence of the teeth from the alveoli can be demonstrated; the root or roots or impacted molar teeth may be correctly outlined, thus enabling the operator to extract with greater precision and few broken teeth. The extent of alveolar abscesses, the condition about the roots of teeth crowned or about to be, is made plain; they also disclose the existence of and location of supernumerary teeth. In short the uses of the rays in operative and prosthetic dentistry are of incalculable value and dentists should make larger use of them than they do at present.

There is no need to emphasize the diagnostic use of the Rays in surgery. We all know that their application has changed the diagnosis of an injury as a sprain into the certainty of a fracture; disclosing fractures where none were suspected, defining the presence and existence of bone tumors and their origin, locating the presence of foreign bodies, differentiating a tumor of pregnancy—when ossification has advanced sufficiently—from and eliminating it in the diagnosis of other tumors and neoplasms of the uterus and adnexa; delineating the conditions and destructive processes of Pott's disease and tubercular coxitis, and throwing a flood of light upon many conditions that were formerly seen as through as glass darkly.

Experiments on animals show that the Rays cause a degeneration and absorption of

the lymphatic glands and the graafian follicles in the female, and that they are a cause of sterility in man. Reports of the sterilizing effects of the Rays on operators are becoming numerous. Whether the effects are lasting, we presume, that the census of physicians' families will hereafter disclose. Let us hope not, and that society will not take to using the rays as another means of aiding and abetting race suicide.

The working out and unfolding of the romance of the Rays is an intensely interesting pursuit, and, while the results in many directions are, and no doubt will continue as elusive and delusive as the ignis fatuus, yet there has resulted and will continue to result many positive, known and demonstrable results.

None can prophesy the ultimate perfection of the light therapy, nor set limits to its usefulness, nor calculate the impetus that has thus been given therapeutics by means other than drugs.

Marriages and Deaths.

MARRIAGES.

J. H. Aleshire, M. D., to Mrs. Addie Miller, both of Plainville, Ill., at Palmyra, October 31.

Fred Baumgart, M. D., Danville, Ill., to Miss Anna Hoehn, of Columbus, Neb., October 26.

Rexwald Brown, M. D., Chicago, to Miss Elizabeth Murphy of Hortonsville, Wis., October 21.

Paul Burrell, M. D., Winslow, Ill., to Miss Minnie Van Dervort, of Warren, Ill., at Galena, Ill., October 17.

Thos. Charles Buxton, M. D., Decatur, Ill., to Miss Anna Strope, of Orena, Ill., November 4.

Moses Eisenstaedt, M. D., to Miss Blanche Janet Benjamin, both of Chicago, November 1.

Frank H. Edwards, M. D., to Mrs. Clara Caton Sirrine, both of Evanston, Ill., in Waukegan, Ill., October 28.

Clarence Maxfield Frye, M. D., Rock Falls, Ill., to Miss Birdie Ferris, of Sterling, Ill., November 7.

Peter J. Gillen, M. D., Prairie du Rocher, Ill., to Miss Mae E. Burch, of Fort Gage, Ill., at Cairo, Ill., October 17.

Francis Welsh, M. D., Hospital, Ill., to Miss Lena Ackerman, of Yorkville, Ill., recently.

E. Stanton Hymer, M. D., to Miss Helen Richardson, both of Chicago, June 20.

C. Bernard Voigt, M. D., Mattoon, Ill., to Miss Pearl Warner, of Shelbyville, Ill., at Chicago, November 6.

DEATHS.

Rufus H. Bartlett, M. D., died at his home in Chicago, November 21, from typhoid fever, aged 50.

James G. Boardman, M. D., died at his home in Bradford, Ill., from pneumonia, October 29, after a short illness, aged 65.

Dennis Collins, M. D., died at his home in Chicago, November 10, from cerebral hemorrhage, after an illness of seven weeks, aged 49.

Conrad Henry Disse, M. D., died at his home in Nauvoo, Ill., October 21, from senile debility, after an illness of two weeks, aged 78.

W. F. Tait, M. D., Galesburg, died in St. Louis of cancer of the face. Dr. Tait was a graduate of the Physico Medical College of Cincinnati, class of 1866, and was an old practitioner of Galesburg. His age was 66.

Swan Hanson, M. D., died at his home in Moline, October 30, from cerebral hemorrhage, after an illness of three days, aged 84.

G. F. Theodore Hoffman, M. D., died at his home in Niles, Ill., November 1, from bronchial pneumonia, after an illness of six days, aged 85.

Charles Laidlaw, 60 years of age.

Wm. F. Milligan, M. D., died at the Chicago Hospital, Chicago, October 1, twenty-four hours after an operation for appendicitis, aged 37.

Orrin Peak, M. D., died at his home in Oak Park, Ill., October 8, aged 79.

Wm. W. Park, M. D., was struck by a freight train near his home in Woodbury, Ill., October 19, and died a few minutes later.

Wm. Robinson, M. D., died at his home in Chicago, October 10.

Lorenzo A. Snyder, M. D., died at the Augustana Hospital, Chicago, October 16, after an illness of five weeks, and five days after an operation for appendicitis, aged 33.

Samuel Y. Thompson, M. D., died suddenly at his home in Danville, while writing a prescription, October 28, from heart disease, aged 62.

Henry A. Wohlgenuth, M. D., died at his home in Springfield, Ill., November 11, aged 83. Dr. Wohlgenuth had practiced medicine in Springfield for nearly sixty years.

New Incorporations.

The Secretary of State at Springfield granted licenses to the following corporations:

Franklin Appliance company, at Chicago; capital, \$1,000; manufacture medical appliances; incorporators, Chase R. Rankin, Shelby B. Nelson and George A. Donnelly.

Good Samaritan Remedy company, capital, \$130,000; manufacturing medicine; incorporators, James F. Trout, Enoch F. Wickersham, Arlington W. Austin.

Mexican Medicine company, at Chicago, name changed to Dwight T. Sprague & Co.

The Illinois Medical Journal.

The Official Organ of the State Medical Society.

DECEMBER, 1905.

NEXT ANNUAL SESSION, SPRINGFIELD, MAY 15, 16, 17, 1906.

OFFICERS:

PRESIDENT—H. C. MITCHELL, Carbondale.

FIRST VICE PRESIDENT—W. K. NEWCOMB, Champaign.

SECOND VICE PRESIDENT—M. S. MARCY, Peoria.

SECRETARY—EDMUND W. WEIS, Ottawa, Ex-officio clerk of council.

TREASURER—EVERETT J. BROWN, Decatur.

EDITOR—GEORGE N. KREIDER, Springfield

ASSISTANT EDITOR AND BUSINESS MANAGER—F. R. GREEN, 5627 Lexington Ave., Chicago.

SECTION ONE.

Practice of Medicine, Medical Specialties, Materia Medica, Therapeutics, Etiology, Pathology, Hygiene, State Medicine and Medical Jurisprudence.

J. H. Stowell Chairman
Columbus Memorial Building,
Chicago.

H. H. Whitten Secretary
Peoria.

SECTION TWO.

Surgery, Surgical Specialties, and Obstetrics.

J. R. Christie Chairman
Quincy.

S. C. Plummer Secretary
34 Washington St., Chicago.

Committee on Prevention of Tuberculosis.

J. W. Pettit, Ottawa.

C. L. Mix, Chicago.

J. F. Percy, Galesburg.

Committee on Public Policy and Legislation.

Frank Billings, Chicago.

Carl E. Black, Jacksonville.

J. W. Pettit, Ottawa.

The Pres. and Sec'y. Ex-Officio.

Committee on Scientific Work.

J. H. Stowel.

J. R. Christie.

The Pres. and Sec'y. Ex-Officio.

The figures refer to the Councilor Districts.

The Council.

- (1) J. H. Stealy, Freeport.
- (2) W. O. Ensign, Rutland, Chairman.
- (3) M. L. Harris, Chicago.
- (4) O. B. Will, Peoria.
- (5) J. Whitefield Smith, Bloomington.
- (6) C. E. Black, Jacksonville, Clerk.
- (7) E. E. Fyke, Centralia.
- (8) C. Barlow, Robinson.
- (9) J. T. McAnally, Carbondale.

PRESENT ARMY MEDICAL SERVICE A HUMILIATING FAILURE.

"UNTIL THE LINE AND STAFF OFFICERS OF THE AMERICAN ARMY ARE TAUGHT THE NECESSITY OF SANITATION, AND THE MEDICAL OFFICER IS GIVEN RANK AND AUTHORITY TO ENFORCE IT, OUR MEDICAL DEPARTMENT MUST REMAIN A HUMILIATING FAILURE. ITS CONTINUANCE UNDER PRESENT CONDITIONS IS NO LESS THAN AN EVIDENCE OF NATIONAL IMBECILITY."

NICHOLAS SENN HONORED.

Nearly 700 physicians gathered in the great Auditorium dining room Saturday, Nov. 11, 1905, in honor of that untiring

worker and remarkable man, Nicholas Senn. The brilliant assembly was promptly photographed and then a Swiss male octette sang the songs of fatherland and thus reminded the guests that Senn was born in the village of Buchs, Canton St. Gallen, and in the house decorated by a harp.

Appropriate remarks were made by the gentlemen presenting the medal and loving cup and then came Senn with a short account of his life and some poetry. For the first time many learned that years ago he had a portion of a cancerous tumor inserted in his arm and that this had been absorbed without any deleterious effects; also that his

graduating thesis was entitled the stimulating action of digitalis, and that his early practice was largely among the children of the small Wisconsin town where he was first located. There has never been any doubt that Senn's genius lay in his remarkable ability to work. Long may he survive to illustrate its value.

WISE COMMENTS FROM KANSAS.

The Editor of the Journal of the Kansas State Medical Society reads the signs right, but is possibly unduly alarmed, since nearly every one understands that O'Gorman, the editor of the American Medical Journalist, is the mouthpiece of the gang that has fattened on the hitherto unorganized profession and the howls he is emitting are to be expected.

The Sheep and the Goats. The movement in the profession toward more thorough organization and the raising of our standard in drug giving and education is raising a tremendous row among those who are hurt thereby. If one wishes to learn the real feelings of those who have hitherto fattened on an unorganized and illy trained profession, one has only to read the American Medical Journalist. The bitterness and malice shown are appalling. Down in Texas where a state association journal has just been started, the private journals are doing their best to get up a row. In other words, the issue has been joined and the character of each journal is being revealed. We, in Kansas may congratulate ourselves that we have no vested interests to fight an altruistic movement such as ours for organization is. We should like to have our readers scan with discriminating minds the fulmination of journals sent them (now more than ever) gratis. Merely calling names is not proof. To assert that a medical "trust" is being formed, does not prove it. To say that physicians are being "coerced," not only does not prove it but rather proves that a wolf is being "coerced" into separating himself from the fold. A little thought shows us that our own self-interest demands that we get together and work together; hence, all hail to the present policy of Editor Simmons and his associates.

MEDICAL LAWS AND SOCIETY DUES IN IDAHO.

Secretary Ed. E. Maxey of the Idaho State Medical Society is evidently a level headed, practical officer and in his last re-

port to that organization he makes the following sensible statements:

"I would urge that this Society at this meeting take some definite action with a view to the organization, political and otherwise of the profession that we may secure such legislation as is needed for the good of the profession and the people of the state. We will get very little recognition from our law makers if we do not insist on it in such a way that they cannot refuse.

"In trying to devise a better method of keeping a check on the dues paid into the District (County) Societies, Dr. Kleinman and myself, after considerable correspondence, adopted the plan of having the District (County) Secretary notify the State Secretary on a specially printed postal card on the day a member pays his dues or membership fee, on receipt of which the State Secretary issues direct to the member a Certificate of Membership good only for the year for which he has paid dues. So far this plan has worked very satisfactorily.

"Dr. Kleinman, Secretary of the South District Medical Society, reports trouble in the collection of dues. Two, three, or more notices are required to get many of the members to 'jar loose.'"

SUCCESS OF THE LEWIS AND CLARK FAIR LARGELY DUE TO VISITING PHYSICIANS.

It is a notorious fact that Expositions are poor investments in a financial way, so that when it was announced that the Portland Exposition of 1905, located on the extreme Western Coast, had more than paid expenses there was considerable surprise and an explanation of the phenomenon was sought.

Many citizens of Portland believe that the result was largely due to the session of the

American Medical Association held there early in July. The Medical Sentinel of Portland editorially says:

How the Doctors Helped the Fair.

When subscriptions were being sought by the committee, whose business it was to raise funds for the entertainment in July of the American Medical Association, it was urged as a reason why these subscriptions should be given, that the doctors would advertise Portland and its Exposition in a way that no other profession would, provided they were suitably received and properly entertained. Any visitor to Portland, coming under pleasant conditions, is delighted with the city; but the visitor who is invited, expected and greeted with open arms of welcome, and properly entertained while here, remembers his visit in a way that one does not, who is simply allowed to shift for himself. The local committee insisted that the visit of the doctors would be a great thing for Lewis and Clark Exposition; that they would return delighted with what they would see here, and they would induce thousands of their friends to come and see the picture that had been such a joy to them. Now that the exposition is over, and now that a retrospect can be taken, we see how true was this prediction of the committee referred to. Mayor Harry Lane sees it, and in a recent interview he said:

"Many do not appreciate it, but it was the doctors of this country who met here in annual convention early in the season that made this fair a success. They came here and saw what we had. They were favorably impressed with the beautiful surroundings and delightful climate. When they left they called the Exposition a perfect gem and when they reached their homes and their patients asked them where they should go to spend the summer, the doctors promptly told them to go to Portland, Oregon, as it was one of the most beautiful places in America. They came and we have reaped the results."

REMARKABLE DECREASE IN THE NUMBER OF MEDICAL STUDENTS.

From Chicago, the greatest medical center of the Western hemisphere, comes the intimation that the number of students attending the high grade medical schools is much less than in former years. We are not advised as to the cause of this diminution but, pending full information on this subject, venture to state some of the causes contributing to this remarkable condition.

First. It is a fact beyond dispute that many other callings offer much greater opportunities for wealth and advancement.

This is notably true in commercial lines where comparatively young men are coming to the front as managers and directors, receiving princely salaries for short hours of easy work. They are required to burn no midnight oil for study and their leisure time can be spent on the golf ground or at suburban homes with family and friends.

Second. It is undoubtedly true that the past few years has shown a remarkable decrease in the prevalence of sickness. Old practitioners unite in saying that no such healthy period as the past eight months has been known to them. Physicians having exclusive practices in a given territory have told us that they could have spent the whole summer away from their locations without great loss to themselves or their clients. Our columns have shown that many practitioners have been absent for several weeks looking after business interests in southern and western states or territories. An increasing number of physicians are leaving the practice to engage in purely business enterprises.

Third. The attraction of the second rate, poorly equipped, easy-to-pass examination—medical school of this and other states is certainly detracting from the best medical schools. While the attendance is decreasing at the best schools we believe that the attendance at the second rate schools is markedly increasing.

Fourth. The methods of certain State Boards of Health and Boards of Medical Examiners has undoubtedly had an effect in decreasing the attendance at the best medical schools. It is said of some boards, that while they make it difficult for graduates of schools giving a good, reliable medical education to secure a license, they make it easy for the graduate of a poor school to enter

upon the practice. A firm in St. Louis has tabulated the questions asked by the various examining bodies and supplies them to recent graduates for a small sum. In order to obviate this evident abuse some of the more reputable boards are abandoning the method of examination by means of written answers and are requiring candidates to submit to oral questioning and to present evidences of medical knowledge by conducting an examination of an invalid before the entire board. Besides passing examination on questions which they have in one way or another obtained, candidates have acknowledged that they obtained the coveted license by means which lead many to believe that some of the boards or their executive officers should be abolished altogether.

Correspondence.

SEND IN YOUR NAMES.

St. Louis, Mo., Nov. 22, 1905.

Dear Sir:

With a view to opening sub-recruiting stations in the various cities of Illinois, I have to request that you furnish me a list of the County Societies in affiliation with the State Medical Association of Illinois, in order that I may be placed in commutation with a Doctor in each city, whose services I might secure for the purpose of examining applicants for enlistment.

Very sincerely,

Melville J. Shaw,

Captain, U. S. M. C., in Charge of Recruiting District.

THE MOTOR WAGON.

White Hall, Ill., November 3, 1905.

Geo. N. Kreider, M. D., Springfield, Ill.

Dear Doctor: In last month's issue of the *Illinois Medical Journal* you ask for experiences of doctors in the use of the motor wagon as a practical means of transporta-

tion in every day work. As I am now completing my second season with one, am very glad to give you the results of my experience.

For more than twenty years it has been my dream to have some sort of mechanical power applied to my road wagon, and at least that long ago I corresponded with a firm engaged in the manufacture of gasoline engines with a view to interesting them in the adaptation of their engine to a road wagon. They expressed a perfect willingness to "experiment" at my expense.

As now made, all machines have too much speed and most of them insufficient power. For pavements and macadamized roads we probably have many machines that are successes, but which by some alterations could be deprived of many of their present sources of annoyance and expense. In the first place the prospective purchaser must get out of his head the notion of great speed. An average of fifteen miles an hour on the road is all that any machine should attempt with a good road, faster than this is an outrage on people using the roads with horses, to say nothing of being unsafe for the motorist.

For country roads the machine should have large wheels—mine has—hind wheels forty-eight; front wheels, forty-four inches in diameter; these have solid rubber tires and on hard roads and pavements, this machine will run every day in the year. For country roads the tires should be steel with small calks to prevent slipping of hind wheels when power is applied and skidding of all wheels on inclines or turning. With such a wheel one can make fifteen miles an hour on good roads, which speed is comfortably made on steel tires behind horses, as long as the horse desires to continue.

For pavement and hard roads the solid rubber tires, with which the machine is equipped, are better. These wheels run on a dead axle, set to the same gather and dished, as an ordinary wagon wheel, running always on a plumb spoke and with a true revolution.

My machine has two air-cooled cylinders, giving about seven horse-power; it has no

differential gear and the transmission is very simple. With twelve horse-power engine, and some minor changes, this should be a practical every-day machine for country roads when it is suitable to use wheels. However, so long as the manufacturers can sell them faster than they can turn them out, they will not listen to any suggestions that may be made from the user, especially if it involves any additional expense in the manufacture or change of machinery. This machine is much more convenient than a horse, safer and does the work in just half the time or less, day in and day out. *But* the makers put them together in a hurry, there was nothing almost correctly adjusted, and many things had to be made over, all of which for a novice was disgusting for the first season.

My legitimate expenses for repairs for the two seasons have not amounted to more than having a horse shod twice, work that should have been done at the factory and was not, has been expensive. The cost of gasoline is not nearly so great as horse feed, lubricating oils do not amount to much as expense. When the users begin to understand what they want before they buy, the motor wagon will begin to assume a more practical shape, You can be sure it has come to stay.

Sincerely,

H. W. CHAPMAN.

THE AUTOMOBILE-GASOLINE.

Flanagan, Ill., November 8, 1905.

To the Editor:

Dear Doctor: In pursuance of your request I will give you a few items about my experience with the automobile. It was with many misgivings that I decided to try the auto in my practice, having heard many stories as to their unreliability and how they would always take a fellow out of town and not bring him back. So the harrowing possibility of starting on an emergency call, getting part of the way and having to walk the rest and being ignominiously hauled home by a farmer's team was thought of.

However, being of an unusually courageous disposition I made the order. The car came, also the entire male population turned out

to see it unloaded. This is a small country town. Having never had anything to do with an auto in any way, I received plenty of good advice as to the running of it. I read the instruction book over carefully, that came with the machine, looked over it for several days then took it out on the street and run it around some on low speed and as it did not try to climb any telephone poles or explode, I was bold enough to attempt to make a call three miles in the country with it the next day. This was not emergency call but one that could have been put off for a day or two without detriment to patient. I started on the low speed, got out half a mile and put on high speed and as nothing happened I advanced the sparker and opened throttle and arrived at destination without incident or loss of time. On the return trip, one farmer said I was going a mile a minute when passing his place, so arrived in town without loss of time. To make a long story short I have since that time run the machine over 2000 miles without anything happening.

The longest that I have been detained at any time was due to poor cylinder oil which allowed the cylinder to heat and I had to wait 30 minutes for it to cool. Have had one puncture in that time which is no harder to mend than the bicycle. I have had very little trouble with horses scaring as they have become accustomed to it much quicker than I supposed. I find I can do the road work in half the time. Running the machine rests a person as nothing else will, as it takes your mind from your troubles. I have made 45 miles making calls a day, got home for early supper and was not all tired out. In warm weather you need not fear overheating as will horses. You get no dust and never suffer from heat. It has saved many calls when being at one extreme of territory you get a hurry-up call at the opposite extreme they will wait for you as you can get there as quick as anyone. When on a tedious confinement case you can leave it for short periods to go and make other calls and driving the machine is as good as a prolonged vacation. I run my machine on a trip, 275 miles across the state and back over hills, the steep-

est and longest that I have seen in Illinois crossing the river at Chillicothe going straight through to Galesburg on west with my family of four persons and had nothing happen to mar the trip. The expense of this trip was \$3.75 for gasoline and oil. The machine is a 16 horse power Reo Touring car, detachable tonneau making a runabout car which you can use for pleasure as well as business. In any case I would say get only a two cylinder car with an abundance of power with construction as simple as possible. As to the life of the auto I have no reliable data but my machine shows no signs of wear, not excepting times I count on using machine seven months of the year with mud clogs on. I will run through any mud we have in summer. My machine has cost me but \$1 to present time outside of gasoline and oil and I have used the machine almost every day. I may have been unusually fortunate in my experience with the auto but can say that it has made the work nothing but pleasure during the hot weather instead of being entirely worn out as is usually the case.

With these few disconnected remarks, I will have to close.

Yours fraternally,

E. E. McCoy, M. D.

CORRESPONDENCE SCHOOLS.

Chesaw, Wash., Nov. 8, 1905.

State Medical Association,
Springfield, Ill.

Gentlemen: Please inform me if a graduate of an osteopathic correspondence school has a right to practice osteopathy in your State.

I see a correspondence school in Chicago that is incorporated under Illinois State Laws, claims the right by law to grant diplomas to its graduates.

Thanking you in advance for an early reply, I am,

Yours, respectfully,

C. T. Kramer.

News Items.

Dr. Shearl has removed from Springfield to Riverton.

Dr. J. R. Allen has removed from Springfield to Glenarm.

Dr. J. W. D. Mayes of Illiopolis, has removed to Springfield.

Dr. E. A. Knodle has removed from Beardstown to Springfield.

Dr. Geo. L. Crocker of Springfield, has removed to Twin Falls, Idaho.

Dr. J. K. Elder of Virginia, Cass County, has removed to Murrayville, Morgan Co.

Dr. H. P. Harder is erecting an \$18,000 residence at Hinman avenue and Main street, South Evanston.

Dr. Jerome B. Thomas who was surgeon of the 24th Illinois Volunteer Infantry during the Civil war, is now Governor of the National Soldiers Home, at Dayton, Ohio.

Branchial Fistula Outlined.

Dr. W. F. Campbell of Brooklyn finding it difficult to follow the course of a branchial fistula of the neck hit upon the expedient of injecting the fistula with a paraffine solution and thus caused the fistula to stick out like a whip cord. He dissected the fistulous tract up as far as the tonsillar opening and then inverted it into the pharynx and tied it off at that point.

HE ADVERTISED HIS FATHER'S BUSINESS.

Dr. Oliver Wendell Holmes once made an address in his native town to a medical association. The president of the association was the son of a man who had been the druggist of the village when Dr. H—— had studied medicine there. "It is good to look at this young man," said the genial autocrat, "and trace his father's liniments, in his face." — Men and Women.

H. D. EASTERLY OF PEORIA AGAIN STEPS INTO THE LIME LIGHT.

Dr. Wm. T. Dowdall of 105 S. Jefferson ave., Peoria, requests physicians who have fallen under the "hypnotic eye" of H. D. Easterly to communicate with him at once. The following clipping from the Peoria Star of recent date tells the story.

On a charge of false imprisonment, Drs. Wm. Dowdall and Guy G. Dowdall, sons of William Tecumseh Dowdall, are made defendants in a suit for \$15,000 damages by Harry D. Easterly. The plaintiff is represented by A. H. Burke and the suit was filed in the circuit court yesterday afternoon.

From the papers filed in the case it appears that during the month of May, 1903, Easterly was representing a certain insurance and in-

vestment company. The Dowdalls claimed that they were induced to pay Easterly a certain sum of money for the appointment on the promise that it would be returned in the shape of fees. Later Easterly was arrested on a charge of obtaining money under false pretenses. He was given a preliminary hearing and bound over to await the action of the grand jury, but that body ignored the case.

Some time afterward the firm of Dowdall & Dowdall was dissolved. William coming to Peoria. This city is also Easterly's headquarters and after he was released on bail he came here. He claims that when he was arrested the matter was given considerable publicity and eventually ruined his business. This he estimates to have been worth \$15,000 and accordingly he is asking the court to make good that amount.

The following advertisement appears in a daily printed in one of the thriving cities of Illinois:

PROFESSIONAL CARDS.

W. L. R., A. M. M. D.

REGULAR PHYSICIAN AND SURGEON.

Diseases of Women and Children a Specialty. Catarrh, Piles and Skin Diseases Specialties. Medical Supplies from all Central Points of the New and old world timely received.

Chicago Items.

Dr. R. M. Tafel of Chicago, has removed to Phoenix, Ariz.

Dr. Frankenthal of Chicago, was seriously injured and his automobile was smashed almost to pieces in a recent collision with a coal wagon.

Certain Chicago undertakers are said to pay commissions to physicians and clergymen for influencing their clients to patronize their establishments. The usual graft is said to be \$25.00.

Dr. D. M. Provan, 709 Milwaukee ave., Chicago, has been recently sued by Robert Schmid of 357 Wood st., for the alleged alienation of his wife's affections. Dr. Provan gave bonds for his appearance in court.

Dr. Noble M. Eberhart of 103 State st., was recently defendant in a suit for divorce brought by his wife. The decree was based on charges of "willful" desertion. Mrs. Eberhart appeared nervous when she took her seat on the witness stand.

"Your bill states that your husband willfully deserted you," said Judge Mack. "Did he give you any reason for leaving you?"

"No," replied Mrs. Eberhart, "he simply packed up his clothes one night at our home in

Lake Park avenue and left without saying a word."

Mrs. Eberhart told the court that after her husband's departure she had pleaded with him to return to her for the sake of their child, Dorothy, 7 years old, but that he refused.

Dr. Max Herzog, formerly of Chicago, now pathologist of the Bureau of Government Laboratories at Manila has gone to Japan to study beri-beri. It is said to be very prevalent in Japan at this time.

ONE SUICIDE EVERY 18 HOURS.

That is Cook County's Record for the Last 18 Months, According to Coroner Hoffman's Report.

Coroner Hoffman's report to President Brundage of the county board shows that in the eleven months previous to November 1, there were 421 suicides in Cook County, 120 deaths due to street car accidents, 5 caused by automobiles, 321 by railroad accidents, 187 homicides, 201 deaths due to falls, 157 to burns and scalds. The causes of 82 deaths were undetermined.

The coroner held 3,173 inquests, and the cause of death was found to be natural in 1,151 cases.

"According to the coroner's report," President Brundage said, "there have been more deaths from railroad accidents in Cook County in the last eleven months than there were from similar causes in all of England during the same period. The suicides were at the rate of one every eighteen hours."

NEW HOSPITAL IS DEDICATED.

Archbishop Quigley and Others Assist at the Consecration of Hotel Dieu Institution.

Elaborate religious exercises marked the dedication of the new Hotel Dieu hospital, Sixty-fourth street and Harvard avenue, November 21st. Pontifical high mass was celebrated by Archbishop James E. Quigley, following which a breakfast was served by the ladies auxiliary of the hospital.

The ceremonies began at 9 o'clock when the archbishop, accompanied by a score of visiting clergymen and the members of the Order of the Hospital Sisters of St. Joseph, who will have charge of the institution, marched through the marble halls and corridors of the building, blessing and dedicating it to the care of the sick and the unfortunate. Following the celebration of mass Archbishop Quigley delivered the dedicatory address.

The day also was the thirty-seventh anniversary of the day Mother Superior Hopkins, head of the hospital, entered the order.

The hospital cost \$400,000, and will have accommodations for 300 patients.

County and District Societies.

CRAWFORD COUNTY MEDICAL SOCIETY.

Regular meetings are held bi-monthly on the second Thursday. Membership 24.

Officers.

President.....Dr. Frank Dunham
Vice-President.....Dr. L. R. Illyes
Secretary.....Dr. H. N. Rafferty
Treasurer.....Dr. C. Barlow
Board of Censors: Dr. G. W. Fuller, Dr. C. H. Voorheis.
Committee on Arrangements: Dr. I. L. Firebaugh, Dr. C. Barlow, Dr. H. N. Rafferty.

The Crawford County Medical Society held its regular bi-monthly meeting Thursday, Nov. 9th., 1905, at the office of Drs. T. N. & H. N. Rafferty, in Robinson. The minutes of the previous meeting were approved as read.

It is a well recognized fact that the progressive and wide-awake physicians of any community seldom miss an opportunity to attend their local meetings, and this truth is well demonstrated in our county.

There were nineteen present at this meeting, as follows:-

Drs. T. N. Rafferty, I. L. Firebaugh, C. Barlow, A. G. Meserve, E. L. Birch, Frank Dunham, H. N. Rafferty and Gould Smith, of Robinson: Drs. C. H. Voorheis and J. B. Cato, of Hutsonville: Drs. R. L. Gordon and J. A. Ikemire, of Palestine: Drs. J. H. McGovern and S. Smith, of Annapolis: Dr. J. W. Kirk, of Oblong: Dr. C. E. Price, of Eaton: Dr. LeRoy Newlin, of Hardinsville: Dr. J. E. Midgett, of Flat Rock: and Dr. W. C. Hayhurst, of Birds.

Dr. Gould Smith, of Robinson, was nominated for membership in the society, to be voted on at the next regular meeting.

The first paper of the afternoon was "A Report of Three Cases of Wood Alcohol Poisoning" by Dr. W. C. Hayhurst. The author presented this subject in a most interesting manner, his paper being followed by a very general discussion, in which several members mentioned cases coming under their notice, following lemon extract, bay rum, and Jamaica ginger drinking.

Dr. J. M. Mitchell was on the program for a paper on "Irritations of The Respiratory Mucous Membrane," but was unable to attend. On motion of the society, his paper was carried over for the next meeting.

The program was completed by an essay on "The Crawford County Medical Society in The Past," by Dr. E. L. Birch. This proved to be a very interesting sketch of the history of our organization for the past eighteen years, being void of the usual dryness of history, and made amusing by an occasional side-light on the trials and tribulations of the individual members during the early years of the author's membership.

Dr. Birch strongly upheld the custom of the

society in guarding its portals against irregular and unethical practitioners, and believed that was mainly responsible for the excellent reputation which is borne by The Crawford County Medical Society, both at home and abroad. The paper was discussed at length by all present, and on motion was spread upon the minutes of the society.

Dr. H. N. Rafferty exhibited a stony concretion from the appendix of a man operated on the eight day of a first attack of appendicitis.

The concretion was very dense and of unusual size, having caused a perforation, accompanied by the formation of a large abscess. The patient's recovery was uneventful.

In the matter of business, Dr. H. N. Rafferty was elected as delegate to the coming meeting of The Illinois State Medical Society, at Springfield.

It was announced that The Aesculapian Society of The Wabash Valley had been invited to hold its semi-annual meeting in Robinson, in May, and accordingly it was moved and seconded that the members of The Aesculapian Society be entertained at Robinson as the guests of The Crawford County Medical Society. The motion was carried unanimously.

It was moved and carried that the President appoint a committee of seven members, to prepare for the entertainment of The Aesculapian Society, this general committee to have the power to appoint sub-committees, as it sees fit.

The Chair named the committee as follows:- Dr. H. N. Rafferty, Chairman, Dr. W. C. Hayhurst, Dr. C. E. Price, Dr. J. W. Kirk, Dr. J. A. Ikemire, Dr. J. B. Cato, and Dr. J. E. Midgett.

The Secretary read a communication from Dr. G. N. Kreider, asking the society to instruct its delegate in regard to the establishment of a medical defense fund in the State Society. On motion the letter was placed on file, for future reference.

Dues were collected to the amount of \$35.50 at this meeting.

After the transaction of other business, the society adjourned, to meet in January, 1906, at the office of Dr. I. L. Firebaugh, in Robinson.

R. N. Rafferty,
Official Reporter.

MILITARY TRACT MEDICAL ASSOCIATION.

Officers.

President R. C. Matheny, Galesburg
1st Vice Pres.....W. E. Shellenberger, Canton
2d Vice Pres.....J. P. Roark, Bushnell
Sec'y-Treas.....F. E. Wallace, Monmouth

Place of next meeting, Macomb, Ill., 20th and 21st of October, 1906.

The regular annual meeting was held at Canton, October 19th and 20th, 1905. The officers were elected as above. The following

scientific program was heard, and resolution passed. The attendance was large and enthusiastic.

President's Address.

I. F. Harter, M. D., Stronghurst—**The Character of the Ideal Physician.**

Scientific Program.

1. Palmer Findley, M. D., Rush Medical College, Chicago—**Discussion of Ectopic Pregnancy, with Specimens to Illustrate.**
2. W. M. Roberts, M. D., Norris—**Some Footprints of a Prehistoric Race.**
3. G. L. Eyster, M. D., Rock Island—**Some of the Complications and Emergencies in the Surgical Treatment of Ovarian Cystoma.**
4. J. B. Bacon, M. D., Macomb—**Fracture of the Femur. Separation of the Lower Epiphysis with Report of Two Cases.**
5. L. R. Barstow, M. D., Quincy—**The Treatment of Acute and Chronic Gastritis.**
6. Isis M. Mayden, Superintendent of Hospital, Monmouth—**What Should be the Relation of the Small Hospital to the Work at Large?**
7. D. S. Ray, M. D., Cuba—**Anorexia, Why?**
8. C. B. Horrell, M. D., Galesburg—**An Interesting Case in Diagnosis, Confirmed by Surgical Operation.**
9. L. A. Rutherford, M. D., Peoria—**Hyperchlorhydria.**
10. E. C. Franing, M. D., Galesburg—**Appendicitis from the Pathologists View.**
11. S. M. Miller, M. D., Peoria—**Pulsating Tumors, Their Varieties and Differential Diagnosis, with Report of Cases and Presentation of Specimens.**

Resolutions on Patent Medicines.

Be it Resolved by the Military Tract Medical Association, comprising the territory between the Illinois and Mississippi rivers and in annual session assembled; that we commend the efforts being made by the Ladies Home Journal of Philadelphia and Colliers Weekly of New York, to expose the evils of the patent medicine business in this country; be it

Resolved, That we earnestly suggest to the Daily and Weekly Press of the Military Tract the propriety of their aiding the great journals above mentioned in their very worthy efforts to rid the country of the patent medicine business. For the reason that this business in a great measure depends for its pernicious success on alcoholic stimulants or some form of opium as the active ingredient of their so called medicines; be it further

Resolved, That the newspapers which advertise medicines to produce criminal abortion; to restore lost manhood; to relieve the pangs of childbirth and houses of ill fame are in league with a class of criminals who without conscience prey into oblivion were it not for the aid given them through the medium of the paid advertisement in the Daily and Weekly Press.

Respectfully submitted,

Maud Rogers, M. D., Cuba,
J. B. Bacon, M. D., Macomb,
J. F. Percy, M. D., Galesburg.

SANGAMON COUNTY MEDICAL SOCIETY.

Regular meetings are held at the Lincoln Memorial Library in Springfield the second Monday of each month at 8 p. m.
Membership 80.

Officers.

President.....W. O. Langdon, Springfield
Vice President.....R. D. Berry, Springfield
Secretary-Treasurer....C. R. Spicer, Springfield
Directors, B. B. Griffith, E. E. Hagler, A. D. Taylor.

The monthly meeting of the Sangamon County Medical Society was held Oct. 16, 1905 in the Lincoln Library. On the regular date, 10-9-05, for meeting the room was not available.

Twenty members and three visitors were in attendance. The later were Dr. Remby of Lincoln, Ill., Dr. _____ of _____ and Dr. H. L. Taylor of Denver. Dr. Taylor is ass't Chief Surgeon to the D. N. W. & P. R. R., also Ass't Div. Chief Surgeon to U. P. R. R. He is at present, Sec. State Board of Health of Col. The freedom of the society was extended to the visitors.

Drs. Mays, Fink and Monroe and Castle were elected to membership in the society. The committee appointed to visit the dairies claiming to be under sanitary management reported progress and asked for another month in which to finish their work.

A communication from the Sec. State Medical Society concerning the next annual meeting was read. Dr. Kreider moved that the chair appoint a committee on arrangements. The motion carried and president will name members of committee at next meeting.

The Society voted to hold its annual meeting. The arrangements will be in the hands of the board of censors. Dr. Kreider called attention to the fact that there is move on foot looking foward to some action whereby members of the profession, for nominal fee are to be protected from malpractice suits. In case such suits are, any member so insured is to be defended at the expense of the insurance company. It was stated that members of the state society would be given a voice as to whether the State society should have charge of such insurance scheme.

The literary program consisted in a talk by Dr. Young on "His impressions gained by a visit to the Mayo Bro's Hospital." The talk was most interesting and instructive including as it did a biographical sketch of these celebrated surgeons, a description of their hospital, manner of preparing their patients for operation but more particularly the methods employed at present by them in different classes of operation.

Special mention was made of the matter of draining abdominal wounds when necessary, by a stab wound thus preventing herniae. Many details of much importance were described and the fact that they are bound to no routine technic noted. A summary of the results were given showing that even allowing for the favorable conditions under which their

work is done the mortality is remarkably low.

The talk was well received. The principal discussion was along the line of mortality. Dr. L. C. Taylor pointed out the favorable conditions under which much of their work is undertaken and said that their mortality should not be compared, without proper allowance, with that of surgeons in larger cities who took the work as it came.

The meeting closed in order W. O. Langdon, Pres.

C. R. Spicer, Sec.

The Sangamon County Medical Society held its seventh annual meeting and banquet at the St. Nicholas Hotel Nov. 13, 1905. Forty-one guests and forty-six members were present as follows:-

G. W. Bradley, Waverly.
Chas. J. Graser, Springfield.
G. L. Armstrong, Taylorville.
F. E. North, Taylorville.
G. N. Kreider, Springfield.
T. W. Morgan, Virden.
J. H. Fountain, Chapin.
E. L. Crouch, Jacksonville.
J. H. Eddy, Decatur.
S. E. McClelland, Decatur.
W. D. Bowers, Decatur.
J. C. Rigg, Springfield.
Clara A. Garber, Decatur.
Helen A. Babb, Springfield.
L. Estelle Paullin Padgette, Springfield
J. C. Fischer, Decatur.
E. A. Morgan, Decatur.
J. Kenyon Elder, Murrayville.
M. H. Farmer, Virden.
R. L. Morris, Decatur.
A. K. Van Horne, Jerseyville.
W. S. Taylor, Tallula.
M. P. Parrish, Decatur.
D. W. Ottis, Springfield.
Lyn M. Barnes, Decatur.
Herbert C. Jones, Decatur.
G. W. Rice, Cantrall.
T. F. Hill, Athens.
A. D. Taylor, Springfield.
A. L. Stuttle, Williamsville.
E. H. Brittin, Chatham.
W. A. Brittin, Auburn.
Nathan L. Bourne.
A. L. Brittin, Athens.
B. B. Griffith, Springfield.
Benjamin Bachrach, Decatur
Geo. Crocker, Springfield.
L. H. Crocker, Springfield.
L. H. Clark, Decatur.
L. C. Taylor, Springfield.
W. O. Langdon, Springfield.
F. M. Anderson, Decatur.
W. A. Dixon, Decatur.
E. E. Hagler, Springfield.
S. E. Munson, Springfield.
A. F. Wilhelmy, Decatur.
T. J. Pitner, Jacksonville.
C. L. Patton, Springfield.
Chas. McElfrish, Springfield.
J. S. King, Decatur.
J. W. Robinson, New Berlin.
H. C. Blankmeyer.

J. L. Taylor, Springfield.
Rev. E. Francis Irwin, Springfield.
John T. Miller, Decatur.
C. P. Colby, Springfield.
C. H. Walters, Springfield.
M. M. Bradley, Chatham.
Geo. A. Wash, Palmyra.
W. E. G. Mayes, Dawson.
E. J. Brown, Decatur.
A. Trapp, Springfield.
A. E. Prince, Springfield.
J. J. Conner, Pana.
C. Chenoweth, Decatur.
J. V. White, Auburn.
Roy Rogers, Springfield.
O. H. Deichman, Springfield.
M. Altman, Springfield.
C. T. Nelson, Springfield.
O. A. McIntosh, Pleasant Plains.
Frank P. Norbury, Jacksonville.
John Deal, Riverton.
Stanley Castle, Springfield.
Dr. Monroe, Springfield.
A. E. Walters, Springfield.
F. C. Metcalf, Springfield.
R. D. Berry, Springfield.
J. H. Taylor, Springfield.
P. H. Taylor, Springfield.
C. M. Bowcock, Springfield.
Dr. Metz, Springfield.
H. H. Tuttle, Springfield.
W. Ryan, Springfield.
J. Palmers Matthews, Carlinville.
J. F. Duour, Chicago.
J. C. Walters, Springfield.
C. R. Spicer, Springfield.
B. W. Sippy, Chicago.

An informal reception was held in the hotel parlors after which the meeting was called to order by President Langdon. Minutes of the previous meeting were read and approved and the application of Dr. J. W. Robinson of New Berlin was read and referred to the board of censors. The committee appointed to visit the dairies alleged to be under sanitary management asked for more time. A communication from the editor of the Illinois State Medical Journal concerning a legal medical defense fund was read and a vote endorsing it was cast. The usual fee of ten dollars was allowed the Secretary-Treasurer.

The following officers were elected for the ensuing year. President, Dr. R. D. Berry; Vice-Pres., Dr. J. W. Kelley, Sec.-Treas., Dr. C. R. Spicer, Censors: Drs. C. P. Colby, C. L. Patton and O. B. Babcock.

After the election of officers the members and guests repaired to the dining hall where one of the most successful banquets in the history of the society was enjoyed. President Langdon proposed the toast: "The Country Doctor." Dr. G. W. Rice of Cantrall responded. Prof. Bertram W. Sippy of Chicago, the guest of honor for the occasion entertained the society with a lecture on Cardio-spasm. The lecture was clinical in nature a case being presented on whom was demonstrated the use of the esophageoscope. A forcible dilatation of the obstructed portion of the esophagus was done

before the society by means of an instrument which Prof. Sippy has devised.

This instrument consists essentially of an esophageal bougie around the olive tip of which a rubber bag is secured and to which air may be delivered under pressure by a bulb in the hand of the operator and connected with the bulb at the extremity of the bougie by means of a tube. The degree of extension permitted by the rubber bag is limited by a silk bag surrounding it and secured in the same manner. The patient presented was operated on once previously. He had enjoyed several months freedom from his difficulty which returned suddenly after a debauch.

A number of cases of like character were reported as having been relieved in the same manner, some by one, most by two and a few requiring three treatments. The diagnosis of this condition was dwelt on and a case reported in detail, with pathological specimens, which showed the difficult problem which might be presented by such a case.

The lecture and demonstration were most instructive and satisfactory.

OGLE COUNTY MEDICAL SOCIETY.

Regular meetings are held quarterly at Oregon.
Membership 25.

Officers.

President.....J. A. Johnson, Byron
Secretary.....W. K. Farley, Oregon
Treasurer.....L. E. Schneider, Oregon
1st V. Pres.....Jas. Parkhurst, Grand Detour
2nd V. Pres.....J. Kretsinger, Leaf River

The quarter annual meeting of the Ogle County Medical Society, met in the Court House, Oregon, Ill., Nov. 1st, 1905. The meeting was called to order by Dr. J. A. Johnston, President. The following members were present: J. A. Johnston, D. A. Vanderhoof, L. E. Schneider, J. B. Reve, H. H. Sheets, E. F. Hendricks, J. F. Van Voorhis, M. C. Reve, C. J. Price, W. W. Hanes and W. K. Farley.

The minutes of the previous meeting were read and approved, after which Dr. Earl T. Hendricks read an able paper on Infant Feeding, which was freely discussed by all present.

Dr. D. A. Vanderhoof read a good paper on Nephritis, which was freely discussed and sifted by the members.

Dr. C. J. Price read a good paper on Auto-Intoxication, which brought forth a very interesting discussion.

All present enjoyed the meeting and declared that it was interesting and instructive. The meeting adjourned to meet in three months.

WABASH COUNTY MEDICAL SOCIETY.

The Wabash County Medical Society met at Mt. Carmel, October 31, 1905.

A symposium on **Tuberculosis** was discussed by Drs. J. C. Utter, E. A. Buchholtz, J. Schneck and W. S. Schneck.

Dr. J. B. Maxwell spoke on the best method of keeping and collecting accounts.

The following resolutions were passed and sent to the Ladies Home Journal and Colliers Weekly.

Whereas, The traffic in Patent Medicines is attended with serious consequences to the individual, often imperiling and destroying life; and,

Whereas, The science of medicine is, by the use of such nostrums prevented from extending its beneficent work; and,

Whereas, The many publications of our country devote so much space to the advertising of such harmful mixtures containing so large a per cent of Alcohol; and,

Whereas, You have undertaken a fearless, energetic and practical expose and attack upon this enemy to life and science; we, therefore,

Resolve, That the science of medicine owes you our sincere appreciation for so truthful a presentation of the evils, deceptions, and the facts regarding this baneful industry to the public, and advertisers of these nostrums; and,

Resolve, That the Medical Journals should assist in destroying this traffic which is so inimical to the progress of medical science, and lives of the people; and,

Resolve, That this Society send these resolutions to the Journal of Americal Medical Association, and the Illinois State Medical Journal.

THE SOCIETY OF SANITARY AND MORAL PROPHYLAXIS OF NEW YORK CITY.

Held a meeting October, 12, at which the following subjects were discussed.

1. Should the youth of the country be educated in a knowledge of Sexual Physiology and Hygiene?

2. What should be the nature and scope of this education?

3. At what age should this instruction be given, and should it be progressive according to the age of the individual?

Should our educational centres—high schools, colleges and universities—be utilized for this purpose?

5. Should the teaching of Sexual Physiology be incorporated in our text-books of Elementary Hygiene?

As the educational feature of the Society's work is an important one, the Executive Committee would be glad to have a general expression of the opinion from the medical profession as to the availability and practical value of this proposed education. Physicians who have given serious thought to the subject are invited to send to the Secretary their views upon any or all of the questions submitted for discussion. Such communications will be analyzed and tabulated and form the subject of a report by the committee on Education.

Yours truly,

E. L. Keyes, Jr.

Chicago Medical Society.

The Medical Society of Cook County, Regular meetings are held every Wednesday evening from October to June at the Chicago Public Library Building, Randolph Street Entrance in the large hall on the ground floor toward West end of the Building.

OFFICERS:

C. S. BACON, 426 Center Street	President
FRANK X. WALLS, 4307 Ellis Avenue	Secretary
A. E. HALSTEAD, 2937 Indiana Avenue	Treasurer
W. A. EVANS, 103 State Street	Chairman Medicolegal Committee
WM. HARSHA, 103 State Street	Chairman Membership Committee

DECEMBER, 1905.

THE CHICAGO MEDICAL SOCIETY.

Officers and Committeess of The Chicago Medical Society, and its Sections and Branches.

Term expires

Pres't. C. S. Bacon, 426 Center St....	June 1906
Sec't. Frank X. Walls, 103 State St....	June 1906
Treas. W. L. Baum, 103 State St.....	Oct. 1906
Trustees C. B. Reed, 103 State St.....	Oct. 1908
D. J. Doherty, 100 State St..Oct.	1907
F. S. Johnston, 2521, Praire Ave.	Oct. 1906

Councilors at Large.

1. C. S. Bacon, 426 Center St.....	June 1906
2. A. D. Bevan, 100 State St.....	June 1907
3. F. Billings, 70 State St.....	June 1907
4. A. R. Edwards, 100 State St.....	June 1906
5. W. A. Evans, 103 State St.....	June 1906
6. A. Gehrman, 103 State St.....	June 1906
7. G. W. Green, 1296 E. Ravensw'd Pk.	
8. M. L. Harris, 100 State St.....	June 1906
9. J. C. Hepburn, 3601 S. Halsted St....	June 1908
10. J. S. Hunt, 440 Englewood Ave.....	June 1908
11. M. H. Luken, 826 N. Irving Ave....	June 1908
12. R. B. Preble, 103 State St.....	June 1907
13. J. C. Stubbs, 980 W. 22nd St.....	June 1908
14. J. H. Stowell, 103 State St.....	June 1907

Alternate Councilors at Large.

1. A. L. Bouffleur, 100 State St.....	June 1908
2. F. B. Earle, 903 W. Monroe St....	June 1908
3. A. E. Halsted, 103 State St.....	June 1908
4. Wm. Harsha, 103 State St.....	June 1908
5. Weller Van Hook, 103 State St....	June 1908

Councilors From Affiliated Societies.

Term Expires

Dermatological—L. C. Pardee, 34 Wash- ington St.....	Jan. 1906
Gynecological—T. J. Watkins, 103 State. St.....	Oct. 1906
Alternate—Junius C. Hoag, 4669 Lake Ave.....	Oct. 1906
Laryngological—E. F. Ingals, 34 Washing- ton St.....	Jan. 1906

Medical Examiners' Association.

Medicolegal—E. J. Doering, 2458 Indiana Ave.....	June 1906
Neurological—Sydney Kuh, 103 State St.	Jan. 1906
Ophthalmological—W. H. Wilder, 103 State St.....	Jan. 1906
Orthopedic—W. Blanchard, 34 Washing- ton St.....	Nov. 1905
Pathological—Ludwig Hektoen, 762 W. Harrison St.....	June 1906
Pediatric—J. C. Cook, 5708 Rosalie court	May 1906
Alternate—Julia D. Merrill, 683 N. Robey St.....	May 1906
Surgical—A. E. Halsted, 103 State St..Oct.	1906
Urological—Wm. T. Belfield, 100 State St.	Oct. 1906

Councilors and Alternates From the Branch Society.

North Side—Rudolph W. Holmes, 412 N. State St.....	Oct. 1906
Alternate—Carl Beck, 72 State St	Oct. 1906
North Shore—J. P. Houston, 1180 Sheffield Ave.....	June 1906
Alternate—R. C. Whitman, 1735 Pemberton Ave.....	June 1906
Evanston—G. W. Boot, 1945 Maple Ave	Sept. 1906
Northwest—E. A. Fischkin, 893 Milwaukee Ave.....	June 1906
Alternate—E. E. Henderson, 201 W. Erie St.....	June 1906
West Side—J. S. Nagel, 323 S. Western Ave.....	June 1906
Aux Plaines—H. E. Dodge, Franklin Park Ill.....	Sept. 1906
Lawndale—Clyde D. Pence, 859 Turner Ave.....	June 1906
Stock Yards—William Parsons, 841 W. 47th Ave.....	June 1906

Southwest—F. R. Green, 6312 Greenwood Ave.....Sept. 1906
 Alternate—F. S. Rose, 5420 Halsted St.....Sept. 1906
 South Chicago—A. W. McLaughlin, 9139 Commercial Ave.....

Delegates to House of Delegates of Illinois State Medical Society.

Term Expires
 R. R. Campbell, 214 Dearborn St.....Oct. 1907
 George de Tarnowsky, 1309 Ainslee St. Oct. 1907
 J. R. Ballinger, 680 W. Division St....Oct. 1907
 J. V. Fowler, 312 Grand Ave.....Oct. 1907
 J. H. Hess, 830 W. 63rd St.....Oct. 1907
 W. A. Evans, 103 State St.....Oct. 1907
 J. L. Abt, 733 S. Halsted St.....Oct. 1907
 Frank Billings, 100 State St.....Oct. 1907
 C. S. Bacon, 426 Center St.....Oct. 1907
 G. W. Webster, 70 State St.....Oct. 1906
 A. D. Bevan, 100 State St.....Oct. 1906
 W. H. Wilder, 103 State St.....Oct. 1906
 F. R. Green, 6312 Greenwood Ave.....Oct. 1906
 Wm. Parsons, 841 W. 47th St.....Oct. 1906
 Frank X. Walls, 103 State St.....Oct. 1906
 J. A. Clark, 832 W. 21st St.....Oct. 1906
 H. O. White, 396 S. Halsted St.....Oct. 1906

Alternatee to House of Delegates of Illinois State Medical Society.

David Liberthal, 103 State St.....Oct. 1907
 G. E. Baxter, 1916 Evanston Ave.....Oct. 1907
 Mary McEwen, Evanston, Ill.....Oct. 1907
 M. H. Luken, 826 N. Irving Ave.....Oct. 1907
 F. L. Rose, 5420 Halsted St.....Oct. 1907
 H. N. Moyer, 103 State St.....Oct. 1907
 C. D. Pence, 859 Turner Ave.....Oct. 1907
 J. L. Miller, 932 W. 86th place.....Oct. 1907
 H. G. Anthony, 92 State St.....Oct. 1907
 W. S. Harpole, 103 State St.....Oct. 1906
 C. C. Rogers, 70 State St.....Oct. 1906
 R. B. Preble, 103 State St.....Oct. 1906
 E. E. Henderson, 201 W. Erie.....Oct. 1906
 Richard J. Tivnen, 100 State St.....Oct. 1906
 Wm. Harsha, 103 State St.....Oct. 1906
 R. Holmes, 412 N. State St.....Oct. 1906
 G. F. Butler, Wilmette, Ill.....Oct. 1906

Membership Committee.

Term Expires.
 J. C. Hepburn, 3601 S. Halsted St.....Oct. 1908
 James B. Herrick, 103 State St.....Oct. 1907
 A. Gehrmann, 103 State St.....Oct. 1906

Medicolegal Committee.

H. N. Moyer, 103 State St.....Oct. 1908
 C. S. Bacon, 426 Center St.....Oct. 1907
 W. A. Evans, 103 State St.....Oct. 1906

Ethical Relations Committee.

Term expires.
 H. B. Favill, 100 State St.....Oct. 1908
 W. H. Wilder, 103 State St.....Oct. 1907
 N. S. Davis, 70 Madison St.....Oct. 1906

Public Relations Committee.

Chas. J. Whalen, 34 Washington St....Oct. 1908
 Frank Billings, 100 State St.....Oct. 1907
 R. R. Preble, 103 State St.....Oct. 1906

Organization Committee.

R. B. Preble, 103 State St.....Oct. 1906
 G. E. Baxter, 1916 Evanston Ave....Oct. 1906
 W. L. Ballenger, 103 State St.....Oct. 1906
 J. V. Fowler, 312 Grand Ave.....Oct. 1906
 J. J. Alderson, 7 Blue Island Ave....Oct. 1906
 W. S. Pickard, Maywood, Ill.....Oct. 1906
 T. H. Renn, 926 S. Ashland Ave.....Oct. 1906
 Richard J. Tivnen, 100 State St.....Oct. 1906
 F. R. Green, 6312 Greenwood Ave.....Oct. 1906
 W. S. Gilmore, 7210 Woodlawn Ave....Oct. 1906

Propaganda Committee.

Term expires.
 D. J. Doherty, 100 State St.....Oct. 1906
 G. P. Marquis, 103 State St.....Oct. 1906
 J. L. Miller, 32 W. 86 place.....Oct. 1906

Affiliated Societies Committee (Permanent.)

L. Hektoen, 762 W. Harrison St.
 Wm. T. Belfield, 100 State St.
 Sydney Kuh, 103 State St.
 T. J. Watkins, 103 State St.
 A. E. Halstead, 103 State St.

Committee on Criminal Abortion (Permanent.)

R. Holmes, 412 N. State St.
 C. B. Reed, 103 State St.
 Alice Hamilton, Hull House.

Permanent Home Committee.

Nicholas Senn., 100 State St.
 W. A. Evans, 103 State St.
 F. S. Johnston, 2521 Prairie Ave
 D. J. Doherty, 100 State St.

OFFICERS OF THE AFFILIATED SOCIETIES.

Chicago Dermatological Society.

Pres., H. G. Anthony.
 Vice Pres., F. H. Montgomery.
 Sec't., L. C. Pardee.
 Treas., L. C. Pardee
 Councilor, L. C. Pardee.

Chicago Gynecological Society.

Pres., F. T. Andrews.
 1st Vice Pres., Jos B. DeLee
 2nd Vice Pres., Chas. E. Paddock.
 Sec't., H. F. Lewis.
 Treas., Chas. B. Reed.
 Editor, Rudolph W. Holmes.
 Pathologist, Gustav Kolischer.
 Councilor, Thomas J. Watkins.
 Alternate, Junius C. Hoag.

Laryngological and Otological Society.

Pres., Wm. L. Ballenger.
 Secr., Geo. E. Shambaugh.
 Treas., Geo. Shambaugh.
 Councilor, E. Fletcher Ingals.

Chicago Medical Examiners' Association.

Pres., W. A. Jacquith.
 V. P., L. H. Montgomery.
 Sec't., Morton Snow.
 Treas., Ulysses H. Grim.

Chicago Medicolegal Society.

Pres., E. J. Doering.
 Sec't. W. L. Baum.
 Treas., Jos. Matteson.
 Councilor, E. J. Doering.

Chicago Neurological Society.

Pres., Harold N. Moyer.
 Vice Pres., Henry Gradle.
 Rec. Sec., L. H. Mettler.
 Treas., L. H. Mettler.
 Cor. Sec., Chas H. Lodor.
 Councilor, Chas. Louis Mix.

Chicago Ophthalmological Society.

Pres., J. E. Colburn.
 V. P. H. V. Wurdemann.
 Sec't., Thomas Faith.
 Treas. Thomas Faith.
 Councilor, T. A. Woodruff.
 Membership Committee: Oscar Dodd, C. H. Beard, W. H. Wilder.
 Councilor to Chicago Medical Society, W. H. Wilder.

Chicago Orthopedic Society.

Pres., John Ridlon.
 V. P., John L. Porter.
 Sec't., A. B. Hosmer.
 Treas., A. B. Hosmer.
 Councilor, W. Blanchard.

Chicago Pathological Society.

Pres., H. T. Ricketts.
 V. P., Adolph Gehrmann.
 Sec't., Geo. H. Weaver.
 Treas., Frank B. Earle.
 Councilor, Ludvig Hektoen.
 Publication Committee: L. Hektoen, H. G. Wells, W. A. Evans.
 Censors: N. McL. Harris, C. A. Parker, Brown Pusey.

Chicago Pediatric Society.

Pres., S. J. Walker.
 V. P., F. S. Churchill.
 Sec't., Emma M. Moore.
 Treas., Emma M. Moore.
 Councilor, J. C. Cook.
 Alternate, Julia D. Merrill.

Chicago Surgical Society.

Pres., D. A. K. Steele.
 V. P., D. W. Graham.
 Sec't., Wm. Hessert.
 Treas., F. A. Besley.
 Councilors: A. D. Bevan, A. J. Ochsner, E. W. Andrews.
 Councilor to Chicago Medical Society, A. E. Halstead.

Urological Society.

Pres., Wm. L. Baum.
 V. P., G. Kolischer.
 Sec't., J. Allen Patton.
 Councilor, Wm T. Belfield.

OFFICERS OF THE BRANCH SOCIETIES.**1. North Side Branch.**

President, C. S. Williamson.....Oct. 1906
 Vice-President, A. Belcham Keyes....Oct. 1906
 Secretary, R. H. Herbst.....Oct. 1906
 Councilor, Rudolph W. Holmes.....Oct. 1906
 Alternate, Carl Beck.....Oct. 1906

2. North Shore Branch.

President, G. E. Baxter.....June 1906
 Secretary, Ralph E. Green.....June 1906
 Councilor, J. P. Houston.....June 1906

3. Evanston Branch.

President, Geo. J. Tobias.....Sept. 1906
 Secretary, C. W. East.....Sept. 1906
 Councilor, G. W. Boot.....Sept. 1906

4. Northwest Branch.

President, E. C. Seufert.....June 1906
 Secretary, H. E. Wagner.....June 1906
 Councilor, E. A. Fischkin.....June 1906

5. West Side Branch.

President, J. J. Alderson.....June 1906
 Secretary, C. C. Rogers.....June 1906
 Councilor, J. S. Nagel.....June 1906

6. Aux Plaines Branch.

President, Arthur Loewy.....Sept. 1906
 Secretary, C. Reiterman.....Sept. 1906
 Councilor, H. E. Dodge.....Sept. 1906

Douglas Park Branch.

President, F. J. E. Ehrman.....June 1906
 Secretary, Joseph L. Abt.....June 1906
 Councilor, Clyde D. Pence.....June 1906

8. Stock Yards Branch.

President, George Bell.....June 1906
 Secretary, Thos. McHugh.....June 1906
 Councilor, William Parsons.....June 1906

9. Southwest Branch.

President, E. C. Morton.....Sept. 1906
 Secretary, C. H. Lovewell.....Sept. 1906
 Councilor, F. R. Green.....Sept. 1906
 Alternate, F. L. Rose.....Sept. 1906

10. South Side Branch.

President, Chas. E. Paddock.....Sept. 1906
 Secretary, W. S. Harpole.....Sept. 1906
 Councilor, Jos. L. Miller.....Sept. 1906

11. South Chicago Branch.

President, Edward M. Webster.
 Secretary, John S. Davis.
 Councilor, A. W. McLaughlin.
 Alternate, A. L. Blackwood.

A regular meeting was held Nov. 1, 1905, with the President, Dr. Charles S. Bacon, in the Chair.

Exhibition of Specimen of Carcinoma of the Head of the Pancreas.

Dr. William A. Evans: I have been asked by Dr. O'Byrne to present this specimen of a tumor of the head of the pancreas, which was removed at autopsy at the Cook County Hospital this morning. I am not familiar with the case. This is the first time I have seen the specimen. As I understand it, the history is this: The man had been losing flesh rapidly. He lost one hundred pounds during the last fourteen weeks, and died without a diagnosis having been made. At the autopsy this small tumor in the head of the pancreas, involving the ampulla of Vater, with obstruction in the cystic duct, the common duct, and the pancreatic duct, was found. The pancreatic duct was widely dilated, and I think you will notice, as the specimen lies here, that the pancreas is dilated, so that there is a central tube which can be easily made out, large enough to admit a lead pencil. The common duct and cystic duct were also widely dilated.

The hepatic ducts were dilated until some of them show on the under surface of the right lobe as large as a quill.

A few days ago I had occasion to look up the literature of carcinoma of the ampulla of Vater. I found an article in the Journal of Pathology and Bacteriology for 1904 by someone whose name escapes me, who stated that there probably only eight cases of true carcinoma of the ampulla of Vater. A characteristic of the case reported is the very rapid emaciation. The cause of death was probably exhaustion and extreme emaciation. There was no necrosis of the fat in or near the pancreas.

The ducts when injected held about 21 ounces of fluid, that is after the liver had been in a dilute alcohol. The liver decreased in size fully one fourth by expressing the contained bile an Xray picture with the channels injected with lead showed bile canals more than an inch in width.

The vena porta were not involved.

A regular meeting was held Nov. 8, 1905, with the President, Dr. Charles S. Bacon, in the Chair.

Dr. Edward F. Wells read a paper on "Locomotor Ataxia," which was discussed by Drs.

Harold N. Moyer,
Hugh T. Patrick,
L. Harrison Mettler,
Edward F. Wells.

Dr. William F. Belfield read a paper entitled "Suprapubic Versus Perineal Prostatectomy," which was discussed by Drs.

Alexander Hugh Ferguson,
Weller Van Hook,
E. Wyllys Andrews,
F. Kreissl,
A. E. Halstead,
Edward F. Wells,
Gustav Kolischer,
William Fuller,
Wm. T. Belfield.

Adjourned..

Losing Strength.

"An' how's yer wife, Pat?"

"Sure, she do be awful sick."

"Is ut dangerous she is?"

"No, she's too weak t' be dangerous any more!"—Cleveland Leader.

The Way with Some Men.

"Sousebury's physician told him to go in for more athletics."

"And is he going to do it?"

"Sure. He's bought a golf stick and six cases of Scotch whisky."—Houston Chronicle.

One Economy.

"Old Jones must be rich. Three of his daughters have had the operation for appendicitis."

"O, I don't know! It doesn't require any clothes."—Life.

The New Regime.

Dr. Lubig had passed on, and many of his patients were employing Dr. Pond. A little girl who had a good many brothers and sisters proudly announced to a neighbor:

"We have a new baby at our house."

"A new baby!" said the neighbor. "Where did you get it?"

"Well, we used to take from Dr. Lubig; now we take from Dr. Pond."—Life.

Generally.

"Funny thing about these fellows who get rich."

"How, funny?"

"Why, you'll generally find that the man who accumulates a great many bones has a skeleton in his closet."—Houston Post.

Holding Out No False Hopes.

The druggist had gone to the back part of the store to answer a telephone call, leaving his ten-year-old boy temporarily in charge.

Yang Pim, the Chinese laundryman in the next block, came in at this moment to buy a bottle of blood purifier.

"Yes, we've got some," said the conscientious boy, "but I don't believe it'll do you any good. You might take a dozen bottles of it, and you'd still be a Chinaman."—Chicago Tribune.

Sterilized Matrimony.

"Mabel."

"Yes, Harold."

"Mabel, there is something I have wanted to say to you for a long time."

"I'm listening."

"Have you ever had insanity in your family?"

"No."

"Have any of your people died of tuberculosis?"

"No."

"Here is a physician's certificate that I'm all right. Mabel, will you be mine?"—Newark News.

Applies to Some Members of the Medical Profession.

Some men are hammers and they fall

With swift, relentless shock.

This life for them is, after all,

One grand, persistent knock.

And some are anvils standing there,

In undismayed repose.

Firm placed and solid, they must bear

The impact of the blows.

The hammer has its work to do.

The anvil may not yield

In opposition. 'Twixt the two

The world's work is revealed.

—Washington Star

THE USE OF CYSTOGEN

IN

Cystitis Pyelitis

has become the recognized treatment of a large proportion of the American Genito-Urinary Specialists. It impregnates the urine with formaldehyde; washes the Genito-Urinary tract from the glomerulus of the kidney to the meatus urinarius with this germicidal solution. Its influence will be seen in the rapidity with which it neutralizes ammonia, destroys putridity, and clears the urine of the tenacious mucus so prevalent in bladder troubles of the aged.

Samples on application to

CYSTOGEN CHEMICAL COMPANY
ST. LOUIS, MO.

COMMERCIAL FORMS:

Cystogen—Crystalline Powder.
Cystogen—5-grain Tablets.

Cystogen-Lithia (Effervescent Tablets).
Cystogen Aperient (Granular Effervescent Salt)
with Sodium Phosphate.)

THE STORK JURY'S

VERDICT

We the Jury Find that

HIGHLAND BRAND EVAPORATED CREAM

Is simply high quality cow's milk, its bulk reduced two and one-half times, and sterilized. That for

INFANT FEEDING

It is much superior to ordinary cow's milk, the casein is more easily digested, the quality is uniform, and it is germ free.

Helvetia Milk Condensing Co.
HIGHLAND, ILL.
SAMPLES ON REQUEST.

The Illinois Medical Journal.

EDITORIAL OFFICE, 522 CAPITOL AVENUE, SPRINGFIELD.

Copy for advertisements must reach the editor's office by the 20th of the month in order to secure insertion.

PUBLISHER'S NOTES.

The Journal is not responsible for any medical or therapeutical views expressed in this department.

JOSEPH C. HANCE.

Joseph C. Hance died at his country home, Weldon, Montgomery County, Pennsylvania, 5:30 a. m., Monday, November 13, 1905, ten days after being stricken by paralysis, from which he never regained full consciousness.

Mr. Hance was a member of the old firm of Hance Brothers & White, Pharmaceutical Chemists, Philadelphia. He joined his brother in the business in early manhood and always commanded the esteem of the correspondents of the house. He was a man of retiring disposition, whose general condition of health prevented him from taking part in public affairs, although earnestly interested in all that promised for the good of the community.

A man of generous impulses, he endeared himself to those who came to know him intimately.

For a number of years he has been a Director in the Consolidation National Bank, and was a member of the Art Club, Pennsylvania Historical Society, Franklin Institute, Manufacturers' Club and Huntingdon Valley Country Club.

He is survived by a widow and one daughter, wife of Prof. Blake of Lehigh University.

His funeral took place from his Weldon home.

Up-to-Date Setting and Treatment of Fracture.

Philomath, Ore., Oct. 30, 1905.

Ambulatory Pneumatic Splint Mfg. Co.,
Chicago, Illinois.

Gentlemen: I have purchased one of your splints as a result of seeing one demonstrated at the A. M. A. Portland meeting. It is a rather peculiar and interesting case and will do much for the reputation of the splint in this part. I am anxious to do all I can for the man, who is 76 years old. He is here on a visit from Nebraska and the first day he got here, he fell from a height of 25 feet and fractured the left femur, just below the trochanter and being a little above the perineum, it was very hard to hold in place. But with Buck's extension and co-aptation splint, we held it pretty well for 6 weeks, when his general health became so bad, that we had to get him out of bed and union was so slight that with the best we could do, the leg shortened and there was outward bowing. After getting your splint adjusted to the leg with a co-aptation splint, we could get him on his feet for a few minutes every day, several times

and he now rests contented and sleeps good at night. The bones are kept in perfect apposition and I am convinced that if there is any chance for union, we will get it. We could never have gotten union without deformity with any other treatment. One of the points of the splint is its adjustability to all persons. This man is 6 feet 4 inches tall and the apparatus fits him perfectly.

Yours truly,

C. H. Newth, M. D.

Pure Milk for Infant Feeding.

The highest authorities agree that the best artificial food for a healthy infant is pure milk, from healthy cows, properly diluted, sweetened, sweetened and sterilized. Milk of this description differs but slightly in its chemical composition from mothers' milk, and comes closer to an ideal food in every respect than any compound ever made. One of its essential features is that it contains fat which builds fat of a different and better quality than that produced by sugar or starch. Just why this should be so may not be explained, but nevertheless it seems to be the consensus of opinion of all pediatricists that this statement is true.

There is no absolutely fixed standard for the composition of either human or cows' milk, nor does it seem essential that the milk to be fed to infants be of an absolute standard, as long as its chemical composition does not deviate materially from the usually accepted standard of human milk, for the slight difference in carbohydrates may readily be corrected by addition of sugar, and experience has proven that this difference is readily overcome by the child in most instances, even if not corrected.

There is one reliable source from which a sterilized milk which meets all the requirements of the highest degree may always be obtained. This milk is supplied in concentrated form, a portion of its water having been evaporated. It is known as Highland Brand Evaporated Cream, the term "Evaporated Cream" indicating its resemblance to dairy cream in general appearance and usefulness. It is reduced in volume nearly two and one-half times. The peculiar sterilizing process is based on scientific principles, is safe, certain, exact and beneficial to the digestibility of the protein. It is absolutely perfect in every respect for infant feeding. The employment of Highland Brand Evaporated

Cream as an infant food is exceedingly simple. All that is necessary is to add thereto water, which has first been boiled together with sugar, according to the age of the infant.

THE POTENCY PERIOD OF DIPHTHERIC ANTITOXIN.

One of the empirical beliefs concerning curative serums was that the "life" or "keeping quality" of the antitoxin of diphtheria was of short duration. A demand for "fresh" serum has arisen in consequence, and the misconception has gone so far that many physicians have refused to use an old serum, or one on which the arbitrarily-set time-limit of the manufacturers has expired. This practice is erroneous, and the theoretical ground upon which it is based is fallacious. Incontrovertible proof of this is afforded by the results of careful and prolonged investigations and the testimony of numerous competent authorities is adducible.

As far back as 1898, Abba, Director of the Municipal Hygienic Institute of Turin, reported experiments to show that antidiphtheric serum retained its potency unimpaired at least eighteen months after preparation. In 1900 McFarland recorded an essentially similar opinion, extending the period of undiminished potency to two years. Chiadini, in 1902, published experimental evidence to show that the antitoxin kept well for at least eighteen months and began to deteriorate a little at the end of two years. A censure being attached to a certain sample of diphtheric antitoxin prepared in the Pasteur Institute because of its alleged deterioration, Roux announced (1902) that preference was given in the Institute to old serums. At this time also Libbertz had occasion to reply to a criticism directed against a ten-month-old serum, and stated that while serums do diminish in antitoxic value, the loss occurs in the first two or three months, and beyond this they can be kept for years without further impairment.

Recently this vitally important problem has been attacked anew with the opportunity afforded by longer intervals since the serums have been procured, and with more uniform methods of testing and retesting. Testimony in favor of the remarkable stability of diphtheric antitoxin is elicited to sustain the views of the earlier investigators. Thus Marx, of the Royal Institute of Experimental Therapy in Frankfort, in which the governmental examination for the German Empire is conducted, after an exhaustive study of 1138 lots of antitoxin, publishes his observations in the *Festschrift* in honor of Robert Koch's sixtieth birthday. He shows conclusively that the majority of serums suffer no antitoxic depreciation even after a lapse of two to five years. The maximum loss of the occasional serum is 33 1-3 per cent, and this diminution usually occurs soon after the serum is obtained from the horse. Marx makes this significant statement in concluding his report—**Any mistrust of old serums is unfounded.** American serums have been studied by Miller, who tested many samples returned from the market. His results coincide essentially with those obtained by Marx, and he concludes that **The demand for fresh serum is not justified**, and urges that no physician should postpone the treatment of a case of diphtheria awaiting fresh serum, simply because the time-limit on that in hand has expired.

With this array of competent scientific authority, and after a series of confirmatory experiments in our biologic laboratories, we have reached the conviction that the arbitrarily-set time-limit of one year can be safely extended. We have accepted the guidance of facts ascertained by exact scientific research which disprove obsolete traditions, and which should serve to correct erroneous practices. We bring this testimony to the physician in the conviction that he can without jeopardy to himself or his patient follow its dictates.

Frederick Stearns & Co.,
Detroit, Mich.

41A 211+

